REPORT

on the working of the

DEPARTMENT OF AGRICULTURE

for the year

1968

N.S.R.
R.A.M.
M.M.

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The Director

Department of Agriculture and Fisheries *VALLETTA*

DEPARTMENT OF AGRICULTURE,
93, Archbishop Street,
VALLETTA.

18th February, 1970.

Sir,

I have the honour to transmit to you herewith my Report on the working of my Department during 1968.

I have the honour to be,

Sir,

Your obedient servant,

(A.S. FARRUGIA)
Director of Agriculture
and Fisheries

The Honourable
Minister of Trade,
Industry and Agriculture.

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CONTENTS

Chapter		Page
	Staff List of Senior Officers	2
I	Department of Agriculture and Fisheries, Registry of Co-operative Societies	4
II	Agricultural and Fisheries Development	11
III	Extension Service Division	22
IV	Veterinary Service Division	25
V	Horticulture Division	36
VI	Public Gardens, Plantations and Afforestation Division	40
VII	Marketing Division	43
VIII	Plant Protection Section	50
IX	Government Experimental Farms and Stock Stations	54
X	Viticulture and Oenology Section	65
XI	Land and Water Use Section	67
XII	Gozo Branch	77
XIII	Co-operative Societies	92
XIV	Fisheries Section	94

Agriculture	Tables
Weights and Measures	1
Farm Population and area under Cultivation	2
Grants and Loans to Farmers	3
Imports of Seed Potatoes	4
Exports of Ware Potatoes	5
Exports of Onions	6
Sales of Vegetables from Pitkali Markets	7
Sales of Fruit from Pitkali Markets	8
Yearly enumeration of Livestock	9
Diseases and other causes of unsoundness of Meat	10
Vaccination of Pigs and inoculation of poultry	11
Stocks of Imported Store Cattle	12
Slaughterings	13
Respective weights in Rotoli of Animals Slaughtered	14
Co-operatives	
Register of Co-operative Societies	15

CONTENTS (contd.)

	Tables
Fisheries	
Local catch and imports of fresh fish	16
Monthly Return of Catches	17
Comparative statement of landings	18
Grants and Loans to Fishermen	19
Purchase of Fishing Equipment	20
Finance	
Expenditure	21
Ordinary Expenditure	(i)
Special Expenditure	(ii)
Co-operatives	(iii)
Pitkali Markets	(iv)
Capital Expenditure	(v)
Revenue	(vi)
Exports	
Value of Agricultural Exports	22

STAFF LIST OF SENIOR OFFICERS AS ON 31st DECEMBER, 1968.

Administrative & Executive Officers

Mr Anthony S.Farrugia, B.Com., B.Sc.Econ.	- Director of Agriculture and Fisheries
Mr Edward H.Camilleri	- Senior Administrative Officer
Mr George Portelli	- Administrative Officer
Mr Joseph Porsella Flores	- Higher Executive Officer
Mr Carmelo Spiteri	- Higher Executive Officer
Mr David Spiteri Staines	- Higher Executive Officer
Mr Carmel Callus	- Higher Executive Officer
Mr Louis Cilia	- Executive Officer
Mr Caesar Scerri	- Executive Officer
Mr Saviour Ferrito	- Executive Officer

Technical Officers

Dr.Andre' Cassar,B.Sc.,B.V.Sc. M.R.C.V.S.	- Principal Government Veterinary Surgeon & Director of Government Veterinary Services
Mr S.J.Zammit,F.R.H.S.	- Principal Technical Officer
Dr.Gerald J.Peralta, D.Sc. (Agric.)	- Plant Pathologist
Mr George Cousin	- Superintendent of Public Gardens and Plantations
Mr Joseph Frendo	- Chief Fisheries Officer
Mr A.Scicluna Spiteri,B.Pharm., B.Sc.Agric.(Durham),M.Sc., (Soil Sci.)(Durham),F.R.M.S.	- Agricultural Chemist
Mr Edward Ebejer Slythe,C.D.A.	- Senior Agricultural Officer
Mr H.Galea Souchet,B.Sc.(U.C.D.) M.A.S.E.,M.A.S.H.S., M.I.S.H.S.	- Viticulturist and Oenologist
Dr.Frank Cassar,D.Vet.Med.	- Government Veterinary Surgeon
Mr Joseph Debattista, N.D.A., C.D.A.,N.D.Agric., A.M.I.Agr.E.	- Superintendent of Government Farms
Dr.Lawrence Caruana, B.Sc., B.Pharm.,M.V.B.,M.R.C.V.S.	- Government Veterinary Surgeon
Mr Saviour P.Camilleri,C.D.A.	- Senior Agricultural Officer
Mr Peter Calamatta, C.D.H., B.Sc.(Hons.) Hort.,A.R.S.H.	- Horticulturist
Mr John L.Bonnici, B.Pharm.	- Junior Agricultural Chemist
Mr Clive Simpson,N.D.A.,C.D.A.	- Agricultural Officer
Mr Joseph Buttigieg, C.D.A.	- Agricultural Officer
Mr V.Rossignaud	- Agricultural Marketing Officer

U.N.D.P./F.A.O. Horticultural and Demonstration Project

Mr Giovanni B.Mazzocchi	- Project Manager
Mr Guy Spoiden	- Greenhouse Management Technician
Mr E.Collingwood	- Plant Protection Specialist
Mr R.Siddall	- Greenhouse Production Specialist
Mr Eric Le Tissier	- Greenhouse Management Technician
Miss Karen A.Madsen	- Strawberry Expert
Mr Egon J.Larsen	- Vegetables,Flower and Seed Production Expert
M.Rene Martinez	- Vegetables,Flower and Seed Production Expert.

Veterinary Surgeons seconded by the Italian Government

Dr.Clodoveo Capitoli	- Veterinary Surgeon
Dr.Mario Bartolucci	- Veterinary Surgeon

Foreign Experts/Advisers

Mr Moshe Allon (Israeli Government)	- Afforestation and Tree Planting Officer
Dr.Lelio Durante (Italian Government)	- Agronomist Expert
Mr David A.Lintern	- Fisheries Adviser
Dr.Gracco de Nardo (Italian Government)	- Sea Food Cultivation Expert
Mr Julius Obermaier (Federal Government of Germany)	- Fertiliser and Cultivation Expert

British Corps of Volunteers

Miss June Wilkinson	- Plant Protection
Mr Robert Hunt	- Soil Analyst

CHAPTER I

THE DEPARTMENT OF AGRICULTURE AND FISHERIES AND REGISTRY OF CO-OPERATIVE SOCIETIES

A. General

For the Financial Year 1968/69, the funds placed at the disposal of the Department under the Second Five Year Plan amounted to £359,000 divided as to £290,000 for Agricultural schemes and £69,000 for Fisheries.

The following schemes, approved under the Second Five Year Plan, were completed during the year:-

a) Adopted Farms
b) Agricultural Produce Inspection Shed, and
c) Purchase and adaptation of R.N. Abattoir

whilst six other schemes had been completed in previous years.

Twenty-three agricultural schemes benefitted again this year from provisions under this Plan as well as eight fishery schemes.

The object of the Second Five Year Plan was principally aimed at an improvement in the standard of farming and fishing and the funds made available provided a much needed fillip.

The F.A.O. Horticultural Demonstration and Training Scheme maintained its valuable service to horticulture, an industry which continued to register a heartening success.

There was a considerable change in the physiognomy of the staff of the Department during the year under review.

Mr Francis Portelli, Horticulturist and Mr C.Galea Enriquez, Agricultural Economist both resigned their appointments with the Department, whilst the tour of duty of Mr T.P.Ryall, Chief Agricultural Advisory Officer, was completed. By the end of 1968, only the Horticulturist was replaced, Mr Peter Calamatta, having obtained his B.Sc.Hort. at California University and being appointed in Mr Portelli's place.

The two../..

The two departures which seriously affected plans in the livestock sphere were those of Dr.G.G.Alton, B.Sc., M.R.C.V.S., Veterinary Bacteriologist and Dr.R.W.Crowther, B.Sc., M.R.C.V.S., Animal Health Officer. Strong efforts to retain these two F.A.O. Experts failed and the Department lost their invaluable services for good.

Six young men were selected to undergo training in the United Kingdom in agriculture and horticulture prior to being appointed Agricultural Officers.

Two other young men were selected to follow studies at London University leading to the required degrees for appointment as Entomologist and Plant Pathologist respectively in the Department, the first to fill the vacancy created by the resignation of Dr. Louis Saliba in 1967 and the second eventually to replace Dr.G.J.Peralta, who is due to retire in 1970, in the Plant Pathology Section of the Department.

Mr S. Camilleri was promoted to Senior Agricultural Officer and assumed responsibility for the Gozo Branch.

B. Divisions of the Department

The Department, for organizational and administrative purposes, is divided into six Divisions as follows:-

I. Administration and Finance

II. Animal Health

III. Plant Production and Protection

IV. Fisheries

V. Economic Affairs

VI. Social Affairs

Each Division is itself sub-divided into Sections.

The organization of the Department has, as far as practicable, been influenced by the set-up of the Food and Agriculture Organization.

A brief../..

A brief description of each Division follows immediately below:-

I. Administration (including Finance)

The Senior Administrative Officer is responsible for the implementation of policies and the enforcement of directives issued by the Director.

The Senior Administrative Officer is helped by an Administrative Officer and by four Higher Executive Officers as well as other General Service Staff.

The Administration Division comprises the following Sections:-

1. Finance: (a) Expenditure, (b) Revenue, (c) Supplies and (d) Loans
2. Registry and Records
3. Personnel (including Leave Records)
4. Information
5. Gozo Branch

The Finance Section is under the charge of the Administrative Officer assisted by two Higher Executive Officers and other staff.

The approved Estimates for 1968/69 provided the following funds to the Department, namely:

A. Personal Emoluments	- £136,197	(£118,000)*
B. Other Charges	- £243,381	(£222,787)
C. Special Expenditure	- £23,223	(£16,927)
D. Co-operatives	- £10,643	(£10,058)
E. Pitkali Markets	- £30,156	(£25,028)
	£443,600	(£392,800)

* Funds provided under the approved Estimates for the previous financial year.

The Personal Emoluments alone provided for the salaries and wages of 240 officers and other personnel.

These funds, as well as those provided for this year under the Second Five Year Plan are controlled by this Section.

For../..

For a detailed account reference to Table 21 is to be made.

2. The proper running of the Registry is the responsibility of a Clerical Officer. Besides keeping records of files, this Section also comprises the typing pool at Head Office.

3. As may be easily understood, the duties of the Personnel Section include the keeping of leave records effecting promotions, conducting disciplinary action and generally keeping in touch with not only the General Service personnel serving in the Department but also with the personnel belonging to the Departmental Grades. A Higher Executive Officer is in charge of this Section.

4. The Information Section is under the charge of the Senior Information Officer who, amongst his other duties, is the editor of the bi-monthly Departmental Bulletin in the vernacular, called "L-Agrikultura" which carried advice, news and write-ups on agricultural as well as fishery topics. It is a valuable link between the Department and the farming and fishing communities.

5. The Gozo Branch is an epitome of the Department and comprises all Sections thereof on a smaller scale. It is in the charge of a Senior Agricultural Officer who follows the advice and implements the directions of the Divisional Officers at Head Office.

II. Animal Health

The Principal Government Veterinary Surgeon assisted by four Veterinary Surgeons is responsible for this Division which comprises the following Sections, namely:

a) the Veterinary Service
b) the Diagnostic Laboratory
c) the Brucellosis Laboratory

The Principal Government Veterinary Surgeon is the watchdog on the Animal Health in these Islands and he is responsible for the approval or otherwise of all applications for the importation of Livestock. He is also responsible for the animal quarantine station.

III. Plant../..

III. Plant Production and Protection

To assist and advise him in technical matters, the Director relies on the Principal Technical Officer who is responsible for the implementation of directives in all the Sections forming the Division. The Principal Technical Officer is also an Assistant Project Manager of the F.A.O. Demonstration and Training Project.

The Sections composing the Division are the following:-

1. The Advisory and Extension Service under a Senior Agricultural Officer.
2. The Horticulture Section under the Superintendent of the Government Farm.
3. The Public Gardens and Nurseries Section under the Superintendent of Public Gardens.
4. The Afforestation Section under the charge of the Horticulture Officer.
5. The Government Experimental Farm and Stock Station at Ghammieri, Malta under the charge of the Superintendent Government Farm.
6. The Crop Protection Section under the Plant Pathologist.
7. The Viticulture and Oenology Section under the Viticulturist and Oenologist.
8. The Land and water Use Section under the charge of the Agricultural Chemist.

This report contains chapters on the working of each of these Sections.

IV. Fisheries

The main object of this Division is to keep constant watch on the development of this important industry and by encouraging the fishing folk to adopt modern equipment and techniques, help in maintaining if not increasing the catch. It maintains contact with foreign

bodies../..

bodies interested in fishing and this keeps apace with improvements in the fishing industry overseas. The Division issues financial assistance and watches over the interests of the fishermen. Records are kept and studied and experiments are carried out.

The Chief Fisheries Officer, assisted by Fisheries Officers and other personnel, is responsible for the efficiency of this Division.

A report on the activities of this Division is contained in Chapter XIV of this book.

V. Economic Affairs

Under the Agricultural Economist assisted by an Agricultural Marketing Officer and a number of Agricultural Inspectors and other staff, this Section collects and studies statistics and watches and studies the inter-play of demand and supply in order to be able to advise the Director on policies he deems necessary to implement with a view to assisting the production of agricultural products. This Division therefore plays an important part in the administration of this Department and has a considerable influence on Departmental policies concerning the marketing of agricultural products both locally and on overseas markets.

In compliance with approved policies, this Division recommends or otherwise all applications for the importation of fodder and of agricultural and horticultural products.

The Agricultural Economist is also responsible for the efficient running of the number of wholesale markets known locally as 'pitkalis'.

Assisted by a Higher Executive Officer and an Inspectorate, the Agricultural Economist is also responsible under the Director, who is also the Registrar of Co-operative Societies, for the auditing of the accounts of all Co-operative Societies and for ensuring that these Societies are run in conformity with the provisions of the relative legislation.

VI. Social../..

VI. Social Affairs

The Director is also the Registrar of Co-operative Societies and, as such, is responsible for the registration of all such Societies as well as the auditing of the Society Accounts.

It is, moreover, his responsibility to ensure that all registered Co-operative Societies are managed in accordance with the provisions of the Co-operative Societies Ordinance and Regulations of 1946.

This Division is under the charge of a Higher Executive Officer assisted by other staff and an inspectorate.

Further data on the activities of this Division during 1968 are given in Chapter VII.

CHAPTER II

AGRICULTURAL AND FISHERIES DEVELOPMENT

The Department of Agriculture and Fisheries has three main duties to perform that is (1) provide certain items of food for the population which in 1968 amounted to 318,158, (2) grows crops with an export value and (3) increase the earnings of farmers and fishermen.

Production

The value of agricultural production continued to increase. In the years 1964 to 1967 it amounted to £6,452,000, £7,042,000, £7,027,000 and £7,845,000. The value of agricultural production during 1968 is expected to show the same upward trend judging from the figures for exports for 1969.

Exportation

The value of our exports, comprising (1) animals and animal products, (2) Poultry and (3) Horticultural Products, was £1,957,858 for the period 1960/62, £2,983,544 for the period 1963/65 and £4,000,403 for the succeeding three-year period.

The year under review showed an increase under all items over the previous year with the exception of three, namely, Horse Hair, Eggs and Tomatoes.

Farmers Earnings

The income farmers are reckoned to have earned during the years 1964/67 shows a welcome and steady increase and when the number of whole-time farmers is taken into account, the average earning per farmer is very satisfactory.

The Income of farmers, during the years under review was as follows:-

1964../..

1964 - £2,730,000
1965 - £3,139,000
1966 - £3,344,000
1967 - £3,677,000

and, considering that the number of whole-time farmers, males and females,

6,737 during 1964
6,476 " 1965
6,283 " 1966
6,232 " 1967

the average income per whole-time farmer works out at

£405 for 1964
£485 for 1965
£532 for 1966
£590 for 1967

The foregoing calculations go to show the progress agriculture has continued to achieve and there are indications that 1968 should still show an increase in earnings.

Division of Production in the Agriculture Sector

The agricultural production of the Islands of Malta may be divided into three sectors, namely:

A. Animal; B. Poultry; and C. Horticulture

A. Animals

Cows:- The most important animal in this sector is doubtlessly the cow, and it is reckoned that 85% of the cows being reared on the Islands are Friesian. At the moment, these cows are producing 765 gallons of milk on the average a year and, as Friesian Cows are known to produce as much as 1,000 gallons a year, it is the aim of the Department to reach that figure of milk production. With that objective in view, the Government

of Malta../..

of Malta was in active contact with the World Food Organization to conclude an agreement which would benefit all the Maltese livestock breeders.

Table 10 in the Appendix to this Report gives a comparative enumeration of livestock.

Goats:- The same Table shows the importance of goats in our livestock industry. In 1967, some Saanen goats were imported and experiments have successfully been carried out in crossing this hardy prolific breed with the Malta breed and the results have been encouraging. It is hoped that, thereby, a sturdy breed of goat will be reared.

During 1968, a market was found in Libya for our goats and, without unduly affecting the normal supply of goats' milk to the Milk Marketing Undertaking, a good number of goats were exported to that country.

Sheep:- Further reference to Table 10 will show that the number of sheep (ovines) has remained more or less static during the ten years from 1957 to 1967. Here again, the Department intends importing stronger strains of sheep in an effort to improve the Malta breed.

Pigs:- Pig production is increasing in importance from year to year not only due to the impetus given by the requirements at the Malta Bacon Factory but also to the increased demand for pork.

Table 9 shows the gradual increase in the animal population of our Islands whilst Table 13 in the Appendix to this Report shows that the total weight of slaughtering of pigs at the Civil Abattoir reached the figure of 3,083,795 rotoli whilst four years previously, that is to say, in 1964 the total weight was 2,675,377 rotoli. These figures do not include the considerable slaughtering done at the Malta Bacon Factory every year.

Doubtlessly, this is an important sector of

the Malta../..

the Malta Livestock Industry and in order to help in its improvement, the Government of Malta entered into a second contract with the World Food Programme Organization in November 1968 under which 2,500 metric tons of Sorghum is being supplied to the Islands the proceeds from the sale of which are to be dedicated to the improvement of the local pig industry mainly better pig breeding units built according to a model erected at the Government Experimental Farm. Under this scheme, it was possible for the Landrace breed of pigs to be introduced for the first time to breeders in Malta. This breed is expected to compete successfully with the traditional "Large Whites".

Poultry, Rabbits and Fowl:- As in all other sectors of agriculture, the official policy is to diminish the trade gap and make Malta self-sufficient as quickly as possible. This official policy has paid dividends in the poultry industry as Statistics go to prove.

In 1962, 173,338 dozen eggs in shell entered the Island to the value of £202,227 whilst in 1967 no eggs were imported and 85,140 dozen were exported to the value of £11,829.

Following the setting up of four hatcheries, the importation of day-old chicks has been stopped and all the chicks required by the breeders, are now being supplied by local hatcheries. The importation of frozen chickens has also stopped. This industry is now self-supporting and, provided breeders are cautious, there is no reason why the local poultry industry should not continue to flourish and to increase its exportation to neighbouring countries. The maximum retail price of eggs is fixed at 4s/6d a dozen and, during 1968, that price was fetched practically throughout the year.

The breeding of ducks and turkeys on commercial lines is being actively encouraged by all means available and as the number of ducks and turkeys on the farms increases the importation of the frozen article is being gradually reduced by 20% every semester. The breeding of more sophisticated breeds, such as quails and pheasants, is being gradually introduced amongst the

breeders and it is hoped that in the near future Malta will be self-sufficient in ducks and turkeys and the demand for pheasants and quails, met from local sources.

Slaughtering

Meat of all kinds is one of the staple items in the diet and Tables 13 and 14 give details about the slaughterings at the Civil Abattoir.

Slaughtering is permitted only at the Civil Abattoir under the supervision of the Principal Government Veterinary Surgeon.

This slaughterhouse, situated at Marsa, is very antiquated and the feeling has persisted for some time that a new abattoir was necessary.

It has now been decided to have a new one built and consultants were engaged to advise the Department and draw up the requisite plans and specifications. The cost of the new abattoir is estimated to be £600,000.

Horticulture

This sector has also been making steady progress and the exports of horticultural products have shown encouraging results. The value of exports alone amounted to £1,765,317 in 1960/62, £2,764,933 in 1963/65 and £3,713,688 during the three-year period ending in 1968.

a) Potatoes and Onions:- The value of the exports during the periods 1960/62, 1963/65 and 1966/68 amounted to £1,226,809, £1,237,563 and £1,734,563 proves the steady progress made in horticulture since 1960. It is considered that the value of our exports of these articles would increase when a packing station is provided. The proposal to set up a Potato Marketing Board is on the cards. Potatoes and onions are mostly sent to the United Kingdom Market.

b) Flowers: Here again progress has been encouraging

and../..

and whilst the value of the flowers exported in 1960 was £62,930, in 1968 it rose to £336, 825, £34,334 higher than the previous year.

This signal development is the result of the floricultural research and demonstration station established at the Government Experimental Station, Ghammieri, under the auspices of the Food and Agriculture Organization following a five-year agreement signed in April, 1965.

This industry is ripe for considerable expansion but the quantities sent abroad are dependent on the availability of air cargo space to enable a steady flow of this perishable merchandise. The expansion of this industry cannot but be jeopardised by irregular despatch facilities. Although co-operation is not lacking better air freight facilities are an absolute necessity for further expansion here.

c) Wine: Exports to the value of £1,015,304 during 1966/68 proved that Malta wines continued to find a satisfactory market overseas. During the three years ending with 1965, the wine exported was valued at £840,869 as compared with £252,909 exported during the period 1960/62.

The existing legislation governing the manufacture of wine, was revised during the year and a new and up-to-date Wine Act was drafted. This new piece of legislation was expected to become law during 1969.

Any wine production is dependent on a healthy vine crop and our vineyards and the type of vine grown is supervised by the Viticulturist and Oenologist who is responsible for the Wine Experimental Station at Buskett.

Pitkali Wholesale Markets:- The main pitkali markets are centred on Birkirkara and Marsa. There are other

such../..

such markets at Rabat and Zebbug.

Fresh vegetables and fruit are sold by the farmers through these markets and hawkers and green-grocers call at these markets to procure their supplies to be sold by retail all over the Island.

Tables 7 and 8 in the Appendix give details of those sales and their values since 1966. The total values of the vegetables and fruit sold since that year were:-

	Vegetables	Fruit
1966	£490,601	£119,353
1967	£605,454	£168,853
1968	£537,897	£150,936

These figures do not include sales by the Co-Operatives which brought the value of wholesale disposals at:-

£623,081 for 1966
£710,601 for 1967
£703,411 for 1968

Financial Assistance

Livestock breeders and farmers are granted financial assistance to improve their methods and equipment and thus become more productive. This assistance is divided as to 40% grant and 60% loan. These funds have been advanced for the purchase of rotary cultivators, greenhouses, overhead irrigation equipment as well as for the building of cowsheds and for the repair of farm houses.

During the years between 1964 and 1968, the loans granted amounted to £32,893, £18,729, £37,466, £51,538 and £37,556 whilst the grants amounted to £17,418, £12,486, £24,981, £34,158 and £25,016.

Afforestation../..

Afforestation and Nurseries

In order to break the summer arid appearance of our Islands, an ambitious programme of plantings and of afforestation has been embarked upon.

The Department spent about £10,000 on the purchase of seedlings from neighbouring Sicily and these seedlings cost around £2 each on the average.

Since the last two years, the Department has expanded its nursery facilities and it does not now depend on imports for its planting and afforestation drive to the same extent as it did in the past.

1,700 trees were planted during 1965/66, in various places, 20,000 in the following year and 50,000 in 1967/68. It is expected that the number of plantings during 1968/69, will reach 60,000.

To aid the Department with its afforestation programme, the Department received generous help and advice from Israel which not only donated 42,000 seedlings and cuttings but also sent out forestry experts to advise and conduct the operations. The plantation at Ghajn Tuffieha was set up by Israel. Other Governments came forward to Malta's assistance in its drive to produce more greenery.

In 1964, the Government of Italy blazed the trail by donating 13,000 seedlings whilst the latest country to come forward was that of Libya which donated just over 16,000 ornamental seedlings.

Agricultural and Horticultural Schools

Trained personnel is in great demand by the Department as well as by private firms, and, in order to meet the demand at least to some extent, the Department, in collaboration with the Department of Education, organizes courses in Agriculture in Malta and Gozo and another in Horticulture in Malta.

in 1968../..

In 1968, the Agriculture Course was concluded with six students completing their one-year course successfully with very satisfactory results. The Gozo Course produced four successful students. The Horticultural Course was still under way in December, 1968.

Fisheries

Progress in this Division of the Department has been slow. The value of the catches since 1964 to 1968 was £324,094, £334,351, £319,454, £346,009 and lastly £340,950 whilst the landings of fresh-fish for the same quinquennium were 1,348 tons for 1964, 1,279 tons for 1965, 1,276 tons for 1966, 1,463 tons for 1967 and the lowest at 1,180 tons for the year under review (vide Table 16).

Like the farming community, the fishing folk are afforded financial assistance in the way of loans and grants to encourage the introduction of larger fishing boats and better equipment. Table 19 shows the various schemes under which such assistance was paid during the three years ending with 1968.

Advice and assistance is sought from overseas as to how our fishing industry could be improved. Mr H.Lintern was engaged to study local fishing and to advise the Department what could be done to improve catches and earnings whilst the Food and Agriculture Organization sent Mr Mistakidis to advise whether or not crustacea could be successfully reared in Malta waters. The Italian Government was not found wanting and of the experts it sent to assist the Malta Administration was Dr De Nardo, an expert in crustacea breeding. His experiments seem to be progressing quite satisfactorily.

Co-operative Societies

It is believed that Co-operative Societies are the only hope for farmers to increase their earnings from

the sale../..

the sale of their crops. Although encouraged, these organizations are making slow progress. Table 15 in the Appendix gives information about these Societies.

One of these Societies, the Farmers Central Co-operative Society Limited disposes of about a quarter of the fresh vegetables and fruit that are sold wholesale. If and when this Society could expand its activities to sell by retail their profits would mount very considerably.

A new venture in the local co-operative movement was the erection, with Government financial assistance, of a modern winery which will manufacture the grapes grown by its farmer members.

Another new venture is that of the Malta Milk Producers under which livestock breeders have banded together to build a fodder mill which will provide its members with balanced foodstuffs for their herds.

International Activities

Malta is a full member of the Food and Agriculture Organization and has a full-time representative at F.A.O. in the person of Dr I.Moskovits.

At the invitation of the Government of Malta, the Sixth F.A.O. Regional Conference for Europe was held in Malta from the 28th to the 31st October, 1968.

The Conference was attended by delegates from 24 member nations.

There were no fewer than 300 delegates, four observers from member nations from other regions besides observers from International Organizations.

From the agricultural point of view, the benefits to Malta resulting from this Conference are bound to be considerable because we have not only shown Malta's interest in F.A.O. but it enabled visiting members to know Malta well and realize the importance of her problems in the Agricultural sector.

The F.A.O../..

The F.A.O. invitation for the Malta Government to participate in the Seminar on Marketing Programmes to be held at Beirut, Lebanon, from the 4th to the 12th November, 1968, was taken advantage of to send Mr D.Spiteri Staines, a Higher Executive Officer in the Co-operative Societies Section. Mr Spiteri Staines duly played his part in the proceedings and the thesis that were presented and discussed and the visits to establishments that formed part of the programme were of considerable interest to his duties.

The gradual depletion of the farm population is a phenomenon experienced by agriculture in the majority of countries and Malta is no exception.

To combat this movement away from the farmland, the importance of rural youth work in the training of future farmers and farm wives is emphasized and it was with this objective in view that it was decided to send a representative to attend the Seminar on the Promotion of Rural Youth Work that was organized by the International Study Centre for Rural Youth of F.A.O. at Herrsching in the Federal Republic of Germany between the 17th June and the 5th July, 1968.

Malta's representative was Mr C.Galea Enriquez F.R.Econ.S., M.Sc., B.A.Hons.(Lond.), the Agricultural Economist.

Mr Galea Enriquez produced an interesting report on the subject of rural youth training and his recommendations are being gradually implemented.

The Agenda for the 52nd Session of the International Labour Organization, held at Geneva in June 1968 contained two items of considerable interest to farming in Malta i.e. (1) a Recommendation for the improvement of living and working conditions of Farmers and Agricultural Workers and (2) the first draft of a Convention and Recommendation on Labour Inspection in Agriculture. Mr Carmelo Spiteri, a Higher Executive Officer in the Department, formed part of the Malta Delegation.

CHAPTER III
EXTENSION SERVICE DIVISION

The Extension Service is a vital link between the Department and the farmers and breeders. During the year this Service maintained its important functions of:

1. Educating
2. Advising, and
3. Assisting

farmers and breeders to improve their husbandry and management and obtain better returns for their efforts.

This work was performed by means of:-

1. Group Education which consisted of:

a) Agricultural Lectures to young sons of farmers attending the full-time Horticulture and Agriculture Courses at the Agricultural School at the Farm at Ghammieri and at the Technical School, Gozo.

b) Farmers Meetings in various villages and at the Lecture Hall at Ghammieri. These meetings are a very important means of Group Education, giving farmers the opportunity to exchange their views and discuss their problems. At these meetings, seeds of improved varieties were distributed free to farmers, and films on agricultural topics are shown.

c) Agricultural Clubs at Luqa and Mgarr. These clubs, organised by the young farmers of the villages under the guidance of the village priest have throughout the year had the backing and have sought the technical advice of the Extension Service.

2. Individual Advice given by:

a) Daily Attendance at Ghammieri to receive farmers from all area who seek advice and who desire to register for subsidies, loans, grants and other forms of assistance available to them.

b) Farm../..

b) Farm Visits. The day-to-day visits to farms were the backbone of Extension Service work because through the personal and intimate contact with farmers and their families the Agricultural Officers gain the farmers' confidence and, therefore, their co-operation to try out and adopt improved seeds, systems of husbandry, feeding and management.

c) Field Experiments. Reliable and co-operative farmers from villages all over Malta were selected to try out on a large scale the Cappelli Durum wheat for the paste industry.

Small scale field trials were also initiated with tick beans for the local processing industry.

3. Direct Assistance

a) 793 cases of requests for Loans and Grants under the Incentives Schemes were processed and reported on, and recommendations made in each individual case to the Loans Commission.

Requests treated, were for:-

i) Rotary Cultivators and Overhead Equipment;
ii) Improvement to Farm Houses;
iii) Construction of Poultry Units, Pig Units, Calf Pens and Calving Boxes;
iv) Extension of Water and Electricity Mains;
v) Mist Blowing Machines;
vi) Beehives.

b) Applications to the Planning Area Permits Board for the construction of Farmhouses and Farm Buildings are now being vetted and reported on by the Extension Service.

c) Requests for the lease of Government Rural Tenements and ex W.D. property for Agricultural purposes, are investigated and recommendations then made by the Agricultural Officers as to the suitability or otherwise of sites and schemes.

d) Registration of pig keepers for subsidised Sorghum

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are checked and bona-fide breeders given advice on the most suitable way of feeding the Sorghum.

Through this financial assistance given by the Government to farmers and the ceaseless activities of the Extension Service, progress in Agricultural Production was steadily maintained and even increased, so that although there are to-day fewer farmers in agriculture and a smaller area of land is under cultivation, the total value of Agricultural Production has increased, and the farming community as a whole is thereby sharing in the general well-being and playing their vital part in the Economic development of Malta. It has been rightly said that the tourist industry cannot succeed unless agriculture played its part to sustain it. Agriculture is not failing in its duties in that respect and it is the Extension Service despite its depleted strength that constantly watches the situation and does its best to keep the farming community on its toes.

CHAPTER IV
VETERINARY SERVICES DIVISION

During the year under review three Veterinary Surgeons left Malta for good and were replaced by only one Veterinary Surgeon, thus bringing the number of Veterinary Surgeons in this Division from seven to five.

Dr.V.Agamennone, who was seconded by the Italian Government left Malta in November, 1967, after two and a half years' stay. He was replaced by Dr.Mario Bartolucci in August, 1968. Dr.G.Alton who was seconded to the Maltese Government first by World Health Organisation and later by Food and Agricultural Organisation left Malta for Argentina in April, 1968, after eleven years' stay in Malta where he carried out valuable research work on Brucellosis. Dr.R.Crowther who was also seconded by Food and Agricultural Organisation during the last five years and who was in charge of the Veterinary Diagnostic Laboratory, left Malta for Cyprus in May. The last two mentioned experts were not replaced and their expert work had to be carried out by two recently qualified local Veterinary Surgeons, i.e. Dr.Lawrence Caruana and Dr.Frank Cassar respectively. The veterinary duties in Gozo are still being carried out by an Italian Veterinary Surgeon.

The main activities of the Veterinary Services in Malta and Gozo, fall under three main headings, i.e.:

A. Activities at the Abattoirs
B. Activities in the Field
C. Diagnostic work

A) Activities at the Abattoir

All animals must, by law, be slaughtered in a Government slaughterhouse where animals are slaughtered by Government butchers and inspected by Government Veterinary Surgeons assisted by a qualified Meat Inspector. Pigs slaughtered by the Malta Bacon Factory are, however, an exception to this rule, in so far as they are allowed to be slaughtered at the Bacon Factory, although they are also subjected to inspection by Government Veterinary Surgeons and graded by a Government Officer.

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The following animals were slaughtered in Malta and Gozo Civil Abattoirs during 1968:

	Cattle	Equines	Pigs	Sheep	Lambs	Goats	Kids
Malta	10086	679	35536	4004	4895	4980	1798
Gozo	762	11	2625	122	628	86	330
Total	10848	690	38161	4126	5523	5066	2128

Weights in Rotoli

	Cattle	Equines	Pigs	Sheep	Lambs	Goats	Kids
Malta	3198939	151132	3083795	149892	44817	128606	8238
Gozo	259383	2687	246347	4047	6071	2236	1832
Total	3458322	153819	3330142	153939	50888	130842	10070

Plans for a new abattoir to be built on modern and hygienic lines in the not too distant future were in preparation. In fact, a substantial sum of money has been earmarked and consultants have been engaged for the purpose.

B) Activities in the Field

Activities in the Field consist in (i) Prevention, (ii) Control and (iii) Eradication of Animal Diseases.

(i) Prevention

Whereas Malta is self-supporting in respect of its consumption of fresh pork and mutton, yet, for its supply of fresh beef, it must rely on the importation of about 7,000 head of store cattle every year. Out of the total number of 10,848 cattle slaughtered during the year under review, only 4334 were locally reared. The remaining 6514 had to be imported as store cattle from different European countries, mainly, Yugoslavia, Bulgaria

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and Rumania. Imported store cattle are fattened from three to five months before they are slaughtered.

This importation carried out throughout the whole year, constitutes a real and serious danger to the cattle population since the above-mentioned exporting countries are frequently affected with epidemics of Foot and Mouth Disease. However, since the majority of the local population prefers fresh to frozen meat, the importation of store cattle cannot be avoided. Very strict precautions, however, are taken before any consignment of store cattle is allowed to be imported. In fact no Import Licence is granted for the importation of store cattle from any country, unless that country had been free from Foot and Mouth Disease, for at least two months at the time of loading.

By adopting such measures, Malta has remained free from Foot and Mouth Disease for the past 22 years, a record beaten by only a few countries.

All imported store cattle is landed at Zammit Dock, Marsa, where it is without food for 24 hours before being weighed.

Besides the strict control exercised before granting an Import Licence, all cattle is examined immediately on arrival. It is then kept under observation for three to five days and again examined before release.

Horses are likewise examined on arrival for Glanders and Farcy and other infectious diseases and dogs and cats, imported from countries where Rabies is known to exist, are kept in quarantine for six months in Government Quarantine Kennels. The same period of quarantine is imposed on dogs and cats coming from Rabies free countries, if they happen, during transit, to have passed through countries where Rabies exists.

(ii) Control

In the past the most prevalent animal diseases were:-

(a) Bovines: Tuberculosis, Brucellosis, Mastitis and Enteritis in calves;

(b) Swine../..

(b) Swine: Swine Fever, Swine Erysipelas and Enteritis in young pigs;

(c) Caprines: Brucellosis;

(d) Poultry: Fowl Pox and Respiratory diseases.

(a) Bovines

The control of Tuberculosis and Brucellosis will be explained under the Heading "Eradication".

Mastitis in cattle is not as widespread as it was thought to be but as farmers are prone to treating their cows themselves without having recourse to the Veterinary Services, a true picture of the real incidence of the disease in cows is difficult to have. Nevertheless indications show that there is no real cause for alarm in this respect.

The Veterinary Diagnostic Laboratory is available at the Civil Abattoir for breeders who are encouraged to have their cows' milk examined before treatment. During the year under review 26 farmers availed themselves of such facilities.

Calfhood mortality, mainly associated with E.Coli infection, is still a cause of steady loss to the industry. Accurate statistics are difficult to obtain but the general impression is that some progress has been made during the past twelve months. In fact, during the same period the number of local bulls slaughtered exceeded that of last year by 400 head.

(b) Swine

Swine Fever. All pigs are by law required to be vaccinated against Swine Fever but a certain latitude is being allowed just to see whether Swine Fever would appear in unvaccinated pigs. If after two or three years no Swine Fever appears amongst our unvaccinated pigs then it would be advisable to stop vaccination and this would be very welcome since the United Kingdom authorities are not allowing the importation of pork from Malta because live vaccine against Swine Fever is used. A stock of Swine

Fever../..

Fever Antiserum is, however, always kept available in case of any eventuality.

Table 11 shows that 20,337 pigs were vaccinated in Malta and Gozo against Swine Fever. To this figure must be added another 5810 pigs vaccinated by 3 or 4 pig breeders who preferred to vaccinate their own pigs rather than have them vaccinated by Government vaccinators. The figure of 26,147 vaccinated pigs represents about 70% of all pigs slaughtered at the Civil Abattoirs.

Swine Erysipelas which used to be prevalent is now very rare and its ill-effects on our pig population are mitigated by the fact that nowadays this disease is easily cured. Whenever a pig dies from swine erysipelas, the rest of the herd is immediately vaccinated and further damage stopped. Free vaccination of pigs against Swine Erysipelas is also carried out by Government on a voluntary basis and 6995 pigs were prophylactically vaccinated against it during the twelve months of 1968.

(c) Caprines

The principal disease affecting goats is "Brucella Melitensis".

The incidence of Brucellosis amounts to about 5% of the goats in Gozo and about 20% of the goats in Malta. The discrepancy in the incidence of the disease amongst the goats in Gozo and Malta respectively can be explained by the fact that, for the last three years, several Gozitan herdsmen participated in a voluntary scheme whereby all goats in the herd were tested and all positive reactors were slaughtered, the owner receiving a compensation of 15s/- per non-infected goat in the herd.

This scheme which proved popular with some herdsmen was rather expensive although it had the desired effects in inducing several herdsmen to join the scheme, in making them appreciate the advantages of getting rid of all positive reactors and in not introducing any goats

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that had not been tested and declared free from Brucellosis. By introducing this voluntary scheme, the incidence of Brucellosis in the Gozitan goats dropped so low that it was decided to introduce a compulsory slaughter compensation scheme similar to the Disease Eradication Scheme in cows.

After years of research work carried out at the Government Farm, the Rev.1 vaccine was found to be effective in conferring a strong immunity in non-pregnant goats.

On the strength of such results the vaccination of female kids between three and six months of age was made compulsory by law.

d) Poultry

Table 11 shows that in Gozo more poultry were vaccinated against Newcastle Disease then in Malta and an almost equal number of poultry was vaccinated against Fowl Pox. These figures show the number of poultry vaccinated by Government vaccinators but does not cover the number of poultry actually vaccinated since the owners of big poultry units in Malta, amounting to several thousand birds, preferred to vaccinate their poultry themselves in fear that the disease might be introduced by the vaccinators themselves.

(iii) Eradication

In the past all bovines in Malta and Gozo were tested once with the Single Intradermal Test and those cows showing any positive reaction were again tested with the Double Comparative Test six weeks after the first test. Cows being positive to the second test were slaughtered forthwith and compensated for. The herds, in which ever one cow was found to be positive, were tested more frequently.

With regard to Brucellosis, samples of milk were taken every three months from churns delivered at the Milk Collection Depots and subjected to the Milk Ring Test. If this test proved to be positive for any particular herd, then milk samples from every individual cow in that herd was

taken, or, if any cow happened to be dry, then blood samples were taken. The milk was cultured and the blood was subjected to the Agglutination Test and, in cases of doubt, subjected to the Complement Fixation Test.

C) Veterinary Diagnostic Laboratory

In mid-May Dr F.N.Cassar took over charge of the Veterinary Diagnostic Laboratory on the termination of Dr.R.W.Crowther's stay in Malta. Two Veterinary Assistants namely, Mr Victor Scerri and Mr George Farrugia underwent training in Artificial Insemination in the United Kingdom early in 1968.

Post-Mortems carried out during the year 1968

	Poultry	Pigs	Cows	Miscellaneous
January	31	5	6	5
February	75	22	4	4
March	41	10	4	3
April	53	5	5	14
May	65	9	-	3
June	314	4	-	2
July	219	5	5	3
August	72	3	-	14
September	68	6	-	4
October	104	21	2	5
November	231	9	-	-
December	86	-	-	-
	1359	99	26	57

Total number of Post-Mortems carried out were 1,541 involving 472 owners.

Poultry

A man from Mqabba presented a dead bird at the Laboratory on the 22nd February, 1968, for a Post Mortem../..

investigation. Post Mortem findings showed Newcastle Disease lesions. This man was immediately contacted and other birds on his farm were found suffering from the same complaint; but the disease was carried to another district in Malta since the breeder had sold some birds to a butcher in Mgarr (Malta). The birds at Mgarr were also found to be suffering from Newcastle Disease lesions. A Press Release was issued the same day. The two foci were put under strict quarantine measures and all the remaining birds were slaughtered. The two villages of Mgarr and Mqabba were combed for poultry and every bird was first treated with the drinking water vaccine and later with the injectable type. Newcastle Disease vaccine was given free to all poultry keepers, the disease was contained, and the total loss amounted to something under 200 birds. A full history of the outbreak is kept in the Laboratory's library.

On the 26th May, 1968, pullets suffering from what appeared to be Gumboro disease were presented for post mortem investigations. Gumboro is a new disease about which very little is known and which has been ravaging young stock throughout the world since 1958. No vaccine is available yet. Specimens were sent to the Veterinary Diagnostic Centre at Weybridge in the United Kingdom for examination and our findings were confirmed. The mortality on some farms had reached 10% of young stock. Experiments by the section using injectable Certisone were very encouraging. This unknown disease has been the biggest problem throughout the year and it will perhaps, be eradicated by the use of a vaccine which might soon be available on the American market.

Fowl typhoid was not very evident this year. There were odd cases which were confined to small village flocks.

Fowl pox was sporadically seen including a few cases in turkeys. Apart from the above diseases the other main complaints were Leucosis (Liver) and E.Coli due to an exaggerated feeding of Maize.

Pigs../..

Pigs

Post mortems carried out on pigs, amounted to 99, a very large proportion of deaths being due to Enteritis in weaners chiefly as a result of E.Coli. These weaners almost invariably belonged to big farms and it looks that deaths were due to weaners being put on rich feeds after having been brought from poor outside sources. The stress of change in environment and the change of food contribute to a massive invasion of E.Coli into blood stream.

Ascaridiae Lumbricoides have often given rise to liver damage. This is commonly seen in livers brought to the laboratory from the Abattoir. Foetal examinations for egg counts gave positive results out of these pigs. Owners were advised to use the necessary drugs.

Virus pneumonia is also met from specimens brought from the Abattoir.

Management in pig farming is still backwards even on certain big farms.

Swine pox has been encountered on various occasions.

Cattle

During the whole year, the laboratory dealt with 26 cattle cases. Most of these cases concerned milk, blood and urine tests. It is a pity that the cowherds do not make greater use of the Laboratory facilities freely available to them.

Miscellaneous

The most startling discovery in this section is a fungal (PPLO) complaint in racing pigeons. PPLO exists in poultry and a cross infection can arise. Further investigations are planned in view of the increase of the number of racing pigeons among pigeon racing enthusiasts.

A Boa../..

A Boa Constructor was presented for a post mortem. Intestinal impaction was discovered. Most of the cases of rabbits involved either Enteritis due mostly to E.Coli or to mammary abcesses which cleared following surgery.

Poultry Vaccine

With the departure of Dr.R.W.Crowther, who terminated his tour of duty in Malta this year, the production of vaccine was stopped and the last sales of laboratory made vaccine were effected in early September.

The following doses were issued throughout the year:

Pigeon Pox	- 54,600
Fowl Pox	- 140,400
Newcastle Disease	- 392,800

Following the cessation of vaccine production by the Department, it became the Department's policy to keep a quarter of a million doses of each vaccine in stock.

Artificial Insemination

December saw the introduction of Artificial Insemination amongst cattle in Gozo. This scheme was possible through the training of a resident inseminator. At present only fresh semen is used but later on in the year frozen semen will be available for Gozo.

The outbreak of Foot and Mouth disease in the United Kingdom prevented the importation of frozen semen from that source till July, 1968, and hence the Department had to rely solely on fresh semen obtained from stud bulls.

An average of 130 artificial inseminations are made every month in Malta with an overall first-time success of 70%.

Artificial Insemination has come to stay in Malta and its popularity amongst cowherds is strong.

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The following tables gives an overall picture of the Artificial Insemination progress during the year.

Month	Total Insemin-ations	Original Insemin-ations	1st Repeat	2nd Repeat	3rd Repeat	Fresh Semen	Frozen Semen
January	163	117	36	9	1	163	-
February	135	93	32	8	2	135	-
March	146	116	21	7	2	128	18
April	164	137	22	5	-	30	134
May	129	90	32	4	3	102	27
June	133	88	37	3	5	17	116
July	148	100	39	6	3	-	148
August	135	95	23	14	3	-	135
September	129	79	34	11	5	-	129
October	143	94	30	13	6	-	143
November	134	93	21	13	7	31	103
December	142	94	28	16	4	33	109

Conclusion

About ten years ago poultry keeping was essentially a "roof top" or "back-yard" industry. The industry has made satisfactory progress and four hatcheries are working to maximum capacity, with the obvious cut on imported day-old chicks. The poultry keepers are the best clients of the Veterinary Laboratory - 92% of the work is on poultry.

In the local pig industry it has been observed that it is the big pig-breeders with whom the Laboratory is most popular. The shack pig breeder does not make adequate use of the facilities provided for them in the Veterinary Service.

CHAPTER V

HORTICULTURE DIVISION

I. Introduction - The year 1968 brought with it quite a few changes and activities to the Horticulture Section of the Department of Agriculture. As already stated the Head of Section Mr Francis Portelli terminated his services with this department to assume new duties with the Medical and Health Department. Most of the other Maltese members of the section were, at some time or other, away on fellowships abroad. Nevertheless the project which had been set up jointly between the Malta Government and F.A.O. of the United Nations and which was now in its fifth year, progressed as expected. Experiments were conducted at the Demonstration Centre set up at Ghammieri, advisory visits were continued and the steam sterilization programme proved extremely successful. Farmers showed an increased interest in the activities of this section, a fact which was proven by their frequent visits to our glasshouse and by record attendances at lectures and meetings organized for their benefit.

II. Personnel

a) Mr Francis Portelli relinquished his post of Horticulturist halfway through the year. Since his assistant, Mr P.Calamatta was away on fellowship in the United States his duties were temporarily taken over jointly by the F.A.O. team, and the Superintendent of Government Farm.

b) Mr P.V.Calamatta was away on an F.A.O. fellowship in California in order to complete his studies for a degree in horticulture. He graduated in August with an Honours degree and after a further study tour on the Italian Riviera returned in October. On his return he assumed the duties of head of section and was officially promoted to this grade in December, 1968.

c) Mr Carmel Debono was awarded a six month fellowship by F.A.O. to study modern glasshouse techniques at the Glasshouse Crops Research Institute under the guidance of Professor Sheard. His performance there was outstanding. On his return he took over the running of the horticulture section seeing to all the duties in relation with management, advisory work, steam sterilization, etc.

d).../...

d) Mr Francis Sammut was awarded a fellowship to study vegetable growing in Israel.

III. Steam Sterilization

Over 9 acres of protected-cropping area were sterilized and the effect on resultant crops was outstanding, especially in comparison to unsterilized areas.

IV. Service to Farmers

Advisory visits were continued. Fountain Cross seed which is the most popular variety of tomatoes under glass were distributed free to farmers. Demonstrations and meetings were held at the Demonstration Centre, during which growers were shown new technique of propagation, watering and new methods of cultivation for the various crops such as, carnations, gerberas, cucumbers, tomatoes, bell-peppers, etc. Methods of grading and packing for export were explained and demonstrated to prospective grower-exporters.

V. Export of Tomatoes

Exports from the Government Farm were restricted to trial consignments in order not to compete for the limited air freight available. A total of 19 tons of tomatoes were exported to London by 26 exporters. An inspection shed was established at the airport in order to enforce the tomato grading laws.

VI. Equipment

Most glasshouses have now been equipped with Volmatic drip irrigation system with provision for liquid feeding through a dilutor or feed tank. This has greatly improved irrigation practices.

VII. Experimental and Demonstration Cropping in Glasshouse.

A total of 16,000 square feet of glass made up of commercial type glasshouses and small glasshouses kept for demonstration purposes were available at the Farm, Ghammieri.

a).../...

a) Cucumber House - 60' x 18'

A variety trial of cucumbers was carried with the usual favourable results and remarkably high prices achieved in peak demand periods.

b) Gillow House - 50' x 30'

For the third year running this house was put down to a modified trough system which entails growing tomatoes in whale-hide pots over a peat or peat/soil substrata with an underlying polythene sheet. With this system, difficulties of soil-borne diseases and floor steaming were overcome. The system has proved very successful and economical and has, in fact, been adopted by many growers with very promising results.

c) Carnation house - 50' x 30'

A commercial trial began the previous season, using 4 popular varieties was carried out with excellent results. Top quality blooms were produced using a predetermined watering and feeding programme throughout the whole season. This has proved that carnations can be programmed grown which removes the need for skill and guess work in growing this crop.

d) Gerbera - Guernsey house No.1 - 100' x 28'

It has now been established that Gerberas grow well under glass in Malta. Trial consignments to Covent Garden have realised very attractive prices. However it has been shown that soil sterilization is of utmost importance - this resulted from comparisons made between the two halves of the house one of which was not steam sterilized before planting.

e) Guernsey house No.2 Division 'B'

A tomato variety trial was continued from previous seasons using Dutch varieties and new hybrids from the Glasshouse Crops Research Institute of Great Britain. This was a late planted crop with no heat, thus producing very inconclusive results. Dutch varieties seem to be unsuitable for local conditions whereas some varieties obtained from the Research Institute show promise and will be tested further in coming seasons.

f).../...

f) Trough house

Commercial type growing of tomatoes in polythene/asbestos troughs with built-in steaming and drainage channels, once again proved very successful although highly saline water caused a lot of damage to this crop. On private farms this system has produced the finest crops and it is hoped that a good number of the growers will eventually switch over to this system of tomatoes growing.

CHAPTER VI

PUBLIC GARDENS, NURSERIES, PLANTATIONS AND AFFORESTATION DIVISION

San Anton Public Gardens

During the year under review, special attention was paid to the enlargement of the aviary to provide better accommodation for the many birds that are kept for the enjoyment of young and old bird lovers alike. The stone-work was completed and the fixing of the iron frame and netting was in its final stages.

The citrus crop, which provides an additional attraction for the visitors to these gardens, yielded 8095 dozen fruit which was disposed of by direct sale to the public.

The quadrangles were completed and the concreting of the surface was well in hand.

The beds and borders of annuals and perennials received constant attention and a good display of flowers was maintained throughout the year.

Of particular interest was the increased number of tourists that visited these gardens during this period.

Buskett Public Gardens

The citrus crop in these gardens, produced 21,519 dozen fruit which was sold direct to the public.

Other Public Gardens

At the Maglio Gardens, Floriana, the kerb and columns of a section were constructed and the iron railings fixed.

Kerbs were also laid around plots at Hastings Gardens, Valletta, where soil was added and shrubs planted.

The embellishment of the Yacht Marina at Gzira was in progress.

Public../..

Public Plantations

The total number of trees and bushes planted throughout the year was 4,341.

This number includes replacements in respect of those damaged or destroyed either accidentally or wilfully.

Nurseries

The total number of irnamental trees, etc. issued during 1968 from each nursery was as follows:-

Tal-Kmand	Sa Maison	Notre Dame	Tax-Xewk
5,338	432	104	178

The new nursery at Wied Incita was divided into two sections - one for the propagation of fruit trees, including citrus, and the other for ornamental plants.

Large quantities of soil was dumped in this nursery and retaining walls were constructed.

The propagation of seed and cuttings was in good progress both at Wied Incita and at Tal-Kmand Nurseries.

The construction of a 300,000 gallon water reservoir at Wied Incita Nursery was also taken in hand.

San Anton and Verdala Private Gardens

Both the San Anton and Verdala Private Gardens have been maintained in excellent condition.

Wherever it was deemed necessary, ornamental and fruit trees were added or replaced.

A very good standard of maintenance has been kept at Verdala Park where thinning out of surplus growth and pruning of numerous trees was carried out.

Afforestation

The drive on afforestation work in these Islands continued to gather momentum and the year under review witnessed further progress in this effort.

Mr Moshe../..

Mr Moshe Allon, an expert on afforestation, was seconded by the Government of Israel and took up duties with the Department in October.

Vandalism, resulting in the destruction of hundreds of young trees shortly after planting is a discouragement.

The following table shows by locality the various types of trees planted during this period.

Place	Ailanthus	Pines	Cypress	Acacia	Tamarix
Ghajn Rihana	100	-	-	423	-
St.Paul's Bay	-	-	-	40	-
Ghajn Tuffieha	-	49	-	1479	4538
Marfa Road	-	-	-	770	-
Armier	-	-	-	9200	11600
Salini - Bahar ic-Caghaq Road	-	-	-	928	770
Gnadira - Mellieha	-	-	-	100	100
Kennedy Grove	-	-	-	370	-
Little Armier	-	-	-	150	-
Ballut - Mgarr	-	600	-	-	-
Mrejnu - Mgarr	-	400	-	-	-
Mizieb	-	15750	1200	-	-
Bingemma Road	-	-	-	600	-
	100	16799	1200	14060	17008

CHAPTER VII
THE MARKETING DIVISION

Introduction

The main activities of the Section comprise the following:-

1. The supervision of the wholesale Pitkali Markets
2. The running of the Agricultural Produce Inspection Shed at Marsa.
3. Recommending licences to the Department of Trade for the import and export of Agricultural Produce.
4. The issuing of permits for the distribution of locally-milled wheat offals and of manure from the Government Farm.
5. Control price inspection of fresh fruit, vegetables, eggs, meat and fodder at the retail level.
6. The collection of price statistics of Agricultural products and of general statistical data.

Vegetables

a) Potatoes are extensively grown in Malta and Gozo to meet both the local market demand and for export.

Every year some 3750 tons of Seed Potatoes, chiefly Arran Banner, Alpha, some Craigs Royal and some Pentland Dell are sown in both Islands in the months of November/ February.

The tubers mature by April when export season commences.

In 1968, 13,443 tons of spring potatoes, valued at £492,132 were exported as compared with 10,688 tons (valued at £375,503) in the previous year, 9,272 tons of this quantity were exported to the United Kingdom and 4,172 tons to the Continent.

The potatoes are exported in new jute bags suitably marked. The Malta Union of Farmers exported 3251 wooden boxes of ware potatoes, packed in peat moss. Each box weighed about 25 kilos making the total of just over 81 tons.

b) Onions

Onions are the second largest item of Agricultural produce exported. During 1968, 5853 tons were exported../..

exported. Of this quantity, 5619 tons were exported to the United Kingdom, 150 tons to Holland and 84 tons to Tripoli.

Onion Seed is grown locally but most of the seed is imported.

Two main varieties of onion are grown, one to cater for the local market, the other mainly for export. The local market prefers the round pink type whilst the demand on the foreign market is generally met by the round yellow flat top type.

The latter variety is mainly grown on relatively dry land, mostly in the Eastern and Southern districts of the Island of Malta as well as in Gozo.

c) Tomatoes

Tomatoes are a year round crop.

Out-of-season glasshouse tomatoes have become so abundant that, besides supplying the local market, glasshouse tomatoes are exported to the United Kingdom in considerable quantities.

During 1968, 21,163 kilos of glasshouse tomatoes valued at £10,366 were exported to United Kingdom, besides meeting the increased demand from the many new hotels and restaurants that are being built in both Islands to cater for the increasing tourist industry.

All tomatoes exported have to comply with the provisions of the Tomatoes (Export by Air) Rules 1967 and an Inspection Office was set up at Luqa Airport where an Inspector of Agricultural Produce is available to inspect and release all tomatoes for export.

d) Other Vegetables

Hardly any fresh vegetables are imported. All local requirements are met by the local production.

The Principal vegetables grown are:-
Artichokes both globe and Jerusalem, Broad Beans, Cabbages,

Carrots../..

Carrots, Cauliflowers, Cucumbers, Kohlrabi, Lettuce, Long Marrows, Vegetable Marrows, Peas and Pumpkins.

Fruit

Fruit of all kinds is grown, the most important being apples, cherry plums, figs, melons water, melons sugar, oranges, peaches and strawberries.

However, the demand for fruit is so great that considerable quantities of fruit are imported every year, the main source being Italy.

In order to reduce imports of fruits the Department obtains from abroad rootstock, which after grafting and at the rightage, is sold to gardeners and amateur gardeners.

Cereals

Wheat, Barley, Vetches, Forage, Dry Broad Beans and Locust Beans are grown in relevant quantities but imports remain the chief source of supply.

Pitkali Marketing Centres

Agricultural products are mainly put on the market through Pitkali (Wholesale) Markets and through the Co-operative Societies.

The number of Pitkalis is 32 in Malta and 3 in Gozo while Co-operatives have 6 centres all in Malta.

The Pitkalis are situated in the following centres:-

Malta	Gozo
7 at B'Kara	3 at Victoria
5 at Marsa	
2 at Mosta	
5 at Rabat	
3 at Zebbug	
10 at Marina - Valletta	

Co-operatives../..

Co-operatives

There are Marketing Co-operatives in each of the following centres:-

Marsa	Siggiewi
B'Kara	Zebbug
Rabat	Marina - Valletta

With the exception of the Pitkali at the Marina - Valletta and those at Victoria, Gozo, pitkalis run their business under the supervision of a Departmental official.

Exports 1968

Cut Flowers, Plant Cuttings, Seeds and Bulbs

Cut flowers, plant cuttings, seeds and bulbs are also exported in considerable quantities.

The value of these exports during 1968 amounted to £336,825 as compared with £302,816 in 1967.

The trade is in the hands of experienced businessmen. Progress was maintained and there is every indication that the export of cut flowers and plant cuttings will continue to make progress.

Eggs in the Shell

The export of eggs in the shell during the year under review was 3,000 dozen valued at £490.

Fresh Tomatoes

The quantity of fresh tomatoes exported by air to United Kingdom during 1968 was 21,163 kilos valued at £10,366.

Other Agricultural Produce

During the year under review 9,181 kgs. of English strawberries and 736 kgs. of fresh beans were exported. There is every probability that the export of these agricultural products will continue to increase.

Live../..

Live Animals including sheep, goats, cows and day-old chicks

Licences for the export of 4,314 goats, 1,352 sheep, 68 cows and 1,000 hens were recommended to the Department of Trade.

The value of this export under the name of "Live Animals" amounted to £55,296 during 1968.

Imports

Steps are constantly being taken with a view to limiting the outflow of money on the purchase of imports. The total value of the fresh fruit imported during 1968 was £621,122 as compared with £661,095 in 1967.

(i) Frozen Poultry

During the year under review there was no importation of frozen poultry.

(ii) Frozen Turkeys/Ducks

Notwithstanding the increase in local demand, the importation quota of frozen turkeys and ducks was reduced to 95,271 lbs i.e. to 80% of the quantity imported in 1967.

Encouraged by the increased demand and the policy of the Department to restrict imports, breeders are increasing the rearing of these birds. Consequently, the importation of frozen turkeys and ducks is destined to decrease as local breeding increases to replace imports.

(iii) Fodder

Fodder is another item which is imported in large quantities. The value of fodder imports in 1968 was £2,141,728.

(iv) Potato Seed

in 1968, 3,753 tons of Seed Potatoes were imported. The varieties imported were Arran Banner,

Alpha../..

Alpha, Craigs Royal and Pentland Dell.

v) Fertilizers

Fertilizers are imported in sizeable quantities. The value of these imports in 1968, was £66,625.

Licences

All import and export licences concerning Agricultural products and other items of Agricultural interest are considered by the Department and submitted with a recommendation or otherwise to the Department of Trade which decides finally whether or not a licence is to be issued.

Permits

Every Friday morning the Malta Millers Association informs the Department about the quantity of wheat offals that will be available for distribution during the following week.

After deducting allocation made to Gozo, the balance is distributed by means of permits to licensed retailers, registered breeders, manufacturers of animal foodstuffs and co-operative societies according to their requirements, in proportion to the supply position.

During the year 1968, 71,000 (seventy-one thousand) qantars of Pollards and 76,200 (seventy-six thousand, two hundred) qantars of Bran were thus distributed.

Manure Permits

During the same year, 907 permitsfor truck-loads of manure, equivalent to 4,535 tons, were issued to farmers.

Inspection

Agricultural Inspectors make regular inspections on retailers of fresh fruit and vegetables in various parts of the Island for the purpose of ensuring that the

provisions../..

provisions of the Agricultural Produce (Marketing) Regulations, 1952 are being complied with.

Butcher shops are also visited for the purpose of checking the price being charged for fresh meat.

Statistical Information

Inspectors also collect retail prices of fresh fruits, vegetables and meat for statistical and other purposes.

Help was extended to the Central Office of Statistics in connexion with the yearly Census of Agriculture.

CHAPTER VIII
PLANT PROTECTION SECTION

1. General

Dr.G.J.Peralta assumed the direction of this Division in late 1967 and, during the year under review, attempts were mainly concentrated, in conjunction with F.A.O. Plant Pathologist, to reduce within practicable limits the indiscriminate use of organo-phosphorous compounds both on Government and on private field work. This work was carried out in close collaboration with the Medical and Health Department, particularly with the Occupational Health Section. The substitution of organo-phosphorous chemicals was stretched to the utmost with the result that a fewer Plant Pathology Operatives were laid up as a result of spraying with those chemicals.

With a view to reducing still further the risk from spraying with organo-phosphorous compounds, washing facilities were provided, on the advice of the Occupational Health Section of the Medical and Health Department, for Plant Pathology Operatives, together with special protective clothing. Periodical medical examinations of the operatives in question were not neglected in any way and, thanks to the precautions taken, the loss in working hours due to the ill health of these personnel, was considerably reduced.

The spread of plant diseases and pests, including bacterial and virus disease, is facilitated by rapid means of transport. The Plant Protection Section of the Department is fully alive to this danger and is taking all possible steps to control it.

2. Sectional

(a) Laboratory

The purchase of a vertical autoclave was

finalised../..

finalised and delivery was affected while tenders complete with specifications were issued for a drying cabinet. An overhaul in glassware used in laboratory work i.e. petri dishes, flasks, etc. was also carried out, while a temperature recorder was added to the equipment in this laboratory.

During 1968, two hundred and twenty plant diseases specimens were received and dealt with. These included diseases of tomatoes, grape fruit, carnations, apricots, almonds, lettuce, strawberries, citrus, vines, cauliflowers, potatoes, peaches, onions, broad beans, kolhrabi, figs, pears, cabbages, cucumbers, roses, oleanders, etc. The main diseases and pests met with included Verticillium, Fusarium, Botyritis, Mildews, Rhizoctornia, Sclerotonia, Stemphyllium, Virus, Alternaria, Cladosporium, Russet mites, Scale insects, Thrips, Red spider, Aphids, etc. while deficiency diseases, mainly iron, magnesium, phosphorus, were also recorded. Testing of water and soil samples on a moderate scale were also carried out, while germination tests, mainly on tomatoes, onions, stocks, cabbages, etc. were also effected.

(b) Advisory

More than one hundred advisory visits to growers in connexion with pests and diseases were made while four hundred and fifty inspections, including Government and private holdings were carried out by the staff of this Division. A course of lectures on plant diseases and pests and on their control was also given by Mr E.Collingwood the F.A.O. Plant Pathologist, to the horticultural students at the Government Farm, while lectures on glasshouse soil sterilisation, both chemical and steam, were given to glasshouse growers.

(c) Experimental

The following experiments were initiated and will be continued, if necessary, for several seasons, viz:

i) control of russet-mite on tomatoes;
ii) control of onion fly by the use of seed dressings;
iii) cucumber mildew control by the use of a systemic fungicide;

iv) control../..

iv) control of tomato wilts, i.e. Verticillium and Fusarium by the use of resistant varieties;

v) control of tomato wilts by partial sterilization of soil with chemical sterilants;

vi) control of cucumber rot i.e. Sclerotonia with Dichloran;

vii) evaluation of several soil sterilants in a system of continous strawberry growing;

viii) evaluation of the possibilities of growing tropical mushroom in glasshouses during the hot summer months;

ix) experiments on aphid control resistant to normal dosages of organo-phosphorus insecticides.

(d) Phytosanitary

The number of parcels inspected during the period under review amounted to 1,688,319 distributed as follows, viz:-

Imports	... ...	884,902 parcels
Exports	... ...	803,417 "

A break-down of the import figure is hereunder indicated, viz:

Apples	... ...	254,179 parcels
Bananas	... ...	186,193 "
Cherries	... ...	1,826 "
Grapefruit	... ...	3,576 "
Plums	... ...	200 "
Peaches	... ...	7,339 "
Pears	... ...	86,893 "
Pineapples	... ...	201 "
Oranges	... ...	228,600 "
Tangerines	... ...	10,758 "
Avocado Pears	...	440 "
Lemons	... ...	2,042 "
Brussels sprouts	...	504 "
Celery White	...	77 "
Mango	... ...	172 "
Mushrooms (spawn)	...	338 "
Swedes	... ...	500 "
Onions	... ...	19,259 "
Potato (ware)	...	6,740 "
Potato (seed)	...	75,065 "

Sixty../..

Sixty eight parcels were refused entry for non-compliance with the Agricultural (Plant Protection) Act, 1966; some of the parcels being re-shipped, while others were incinerated under the control of the inspectorate staff of this Section.

A breakdown of the export figure is hereunder enumerated, viz:

Oranges	...	14 parcels
Fruits (various)	...	12 "
Garlic	...	240 "
Tomato seed	...	60 "
Vegetable seed (various)		60 "
Convolus seed	...	7 "
Cacti	...	287 "
Flower Fresh	...	301 "
Ponsettia cuttings	...	19 "
Chrysanthemum cuttings		11,460 "
Carnation cuttings	...	5,090 "
Aurecharia	...	1 "
Live plants	...	99 "
Onions		240,560 "
Potatoes (ware)		537,751 "
Tomatoes (fresh)		7,451 "
Strawberries (fresh)	...	5 "

A total of 4,280 parcels mainly potatoes and onions, were rejected for exportation on phyto-pathological grounds.

CHAPTER IX
GOVERNMENT EXPERIMENTAL FARMS AND STOCK STATIONS

Introduction

During the period under review the Government Experimental Farm continued:-

a) To afford facilities for research and experimental work in both animal and crop husbandry;
b) To demonstrate to farmers the modern farming techniques and equipment;
c) To produce high quality seeds and seedlings and good breeding stock.

The activities, during the year, were many and varied. Considerable progress was made in the collection and recording of valuable data which are indeed necessary both to the Department and to the farmers.

It is pleasing to note that farmers are, more than ever before, understanding the need to keep in touch with the activities taking place at the Government Farm. This is easily proved by the continued increase in the number of visits paid by farmers and breeders from all parts of the Island.

Section 1 - Livestock

a) Dairy

During the year under review, the milk herd of the Government Farm was enlarged in order to be able to expand experimental work.

The herd, which is pure Friesian, now consists of 20 milking cows in addition to followers. Besides four bulls are kept for artificial insemination purposes although the importation of nominated frozen semen continued.

The herd is milk recorded and the average milk yield based on a lactation period of 305 days was 1100 gallons per cow. This is in fact the highest ever yield obtained on the Government Farm. The reasons for this improvement in yield are:-

(1) Better../..

(1) Better use of the genetic potentiality of the higher yielding cows;
(2) Making use of nominated artificial insemination;
(3) Better overall management.

The Government Farm herd was fed, as in former years, on the basis of maintenance and production requirements and, in order to demonstrate that this system is the most economical way of feeding milch animals, a financial statement giving the margin over feed cost of each individual cow was kept.

Below is a statement of account on a selected herd of cows from the Farm.

			TOTAL
A. INCOME			
(1) Milk Sales		£3,268.19.3.	
(2) Other Income		840. 0.0.	
(3) Total Income			£4,108.19. 3.
B. EXPENSES			
(1) Maintenance Cost		£564.13.1¾	
(2) Production Cost		£906. 2.7¾	
(3) Roughages		£422. 4.0	
(4) Other Expenses		£1,074. 0.0.	
(5) Total Expenses			£2,966.19. 9½.
	BALANCE		£1,141.19. 5½.

C. OTHER INCOME			
Calves annually	£240. 0. 0.	Monthly	£20. 0. 0.
Manure annually	£600. 0. 0.	Monthly	£50. 0. 0.
	£840. 0. 0.		£70. 0. 0.

D. OTHER EXPENSES			
Interest	£108	Monthly	£9. 0. 0.
Replacement of Stock	£144	"	£12. 0. 0.
Depreciation on Buildings	£150	"	£12.10. 0.
Other Charges	£48	"	£4. 0. 0.
Veterinary Expenses	£48	"	£4. 0. 0.
Labour (one)	£480	"	£40. 0. 0.
Transport	£96	"	£8. 0. 0.
	£1,074		£89.10. 0.

During../..

During the period under review, a record quantity of milk was produced as follows:-

Milk produced and sold to M.M.U. - 176,658 lbs.
Milk produced and fed to calves - 10,159 lbs.

During the period under review 10 heifer calves and 8 bull calves were born.

Careful attention was paid to avoid any missing of heats in order to obtain the highest amount of calves possible during the year.

The calf house of the Dairy Section at the Farm was fitted with automatic watering bowls and rearing proved very successful. So much so, that only one died out of the 18 born.

Caprines

The Goat Section of the Government Farm was removed from the cow section and housed in a different building. This move was rendered necessary by the increase in both the "Saanen" and "Maltese" herds.

The object of the Saanen herd continued to be the supply of billy-goats to local goat keepers in order to improve their herds.

A Saanen Stud service was again this year made available at the Farm and 105 goats-keepers made use of it.

The object of the Maltese herd of goats was for demonstration and experimental purposes.

33,741 lbs. of goat's milk were produced during the twelve months covered by this Report.

Swine Section

The object of the Swine Section of the Government Farm is to produce good quality breeding stock for sale to pig-farmers.

As a matter of fact the Department from time to time imports a nucleus of recommended breeding stock in order to maintain a good strain of pigs.

The Large../..

The Large White herd was again increased and the number of sows at the end of the year was 72 whilst a small herd of Landrace pigs was introduced to Malta. 12 in-pigs gilts and 4 young boars were imported from Holland on the 14th March 1968 as a trial.

Whilst a percentage of the first litter was kept at the Farm to enlarge our herd, the remaining pigs were sold to registered breeders at subsidized prices.

To maintain a high standard of selection, all the piglets sold for breeding purposes were selected from sows which had farrowed and reared up to eight weeks more than 8 piglets and at the same time having live-weight of over thirty-five pounds.

The housing of pigs at the Farm was greatly improved since the new demonstration pig unit erected under the Sorghum Scheme was completed and put into use. It is intended to expand this modern unit and a call for tenders had already been made by the Public Works Department when this report was written.

During 1968 the following sales of pigs were recorded:

Sows	-	11
Boars	-	3
Gilts	-	190
Young Boars	-	66
Fatteners	-	495
Total		765

Poultry Section

For the first time in many years the production of day-old chicks for sale to the public was discontinued due to the fact that this service was no longer necessary. The last of the Light Sussex X Rhode Island Red flock were sold and the deep litter unit was left vacant.

In April 1968, however, 200 Sterling White Links and 200 Sykes 3 pullets were introduced for feeding and laying trials in the battery house. Both varieties started to lay when they were 4 months and a half old, and one month later were in full production. Up to the end of the year the average weekly egg production was:

Sterling - 78.5% Sykes - 72.5%

If [illegible]...

If a single trial is of any significance, then it is evident that the Sterlings are better layers with a lower mortality and they showed they could stand up better to battery keeping.

On the 20th September, 1968, 200 Babcock pullets were presented to this Section by the Top Layers Hatchery at Qormi, on the occasion of its opening, and 300 Babcock cockerels were received from the same establishment in the following November. These pullets were made to undergo the same trials as the Sterlings and Sykes. Results were still being compiled at the end of 1968.

As in former years, this Section organised a sale of poultry and rabbits on the occasion of the Dairy Show held at Ghammieri on the 12th of May, and also participated in the setting up of the Agricultural Stand at the annual Malta Trade Fair.

Geese

A small flock of geese is kept in the open all the year round. There was very little demand for hatching eggs or for goslings.

Guinea Fowl

Guinea Fowl rearing is in its second year. The flock increased to over 100 birds. Rearing guinea fowl is not very demanding but fertility is never good except during themonths of March and April, when fertility is at its best. There was very little demand for hatching eggs or for young poults.

Pheasants

This is also the second year that pheasants were kept at the Farm and some valuable experience was gained therefrom.

The most difficult obstacle in rearing pheasant poults in restricted quarters appears to be their predilection for feather pecking which quickly developes into cannibalism. This calls for frequent debeaking, starting when the poults are a day old. Following this procedure on a new batch of 100 imported day-old poults, a marked improvement in the appearance of the birds and a much reduced mortality through cannibalism were attained. An

attempt../..

attempt at hatching pheasant eggs was not very successful because infertility was rather high probably as a result of captivity. The following figures show how the pheasant eggs were disposed of:-

No. of eggs laid	Breakages & Infertile eggs	No. of eggs sold to Hospitals	No. of eggs hatched	No. of eggs sold for hatching
1263	60	576	234	393

Ducks

The Aylesbury flock is now firmly established. Duck keeping is not difficult as regards rearing. Ducks are hardy birds and thrive under all conditions but it would appear that their rearing is most economical when made on grassland. In confined spaces, ducks quickly become bedrabbled and their appearance consequently suffers though their dirty condition does not affect their health.

Hatching eggs were in moderate demand but a number of ducklings, which were offered for sale, was quickly disposed of. There were numerous enquiries about future sales and the prospect of an expansion in the breeding of ducks seems good. The following figures show the production results this year from Duck rearing:-

No. of eggs laid	No. of eggs sold to hospitals	No. of eggs sold for hatching	No. of ducklings sold to public
11,467	4,524	5,408	1,535

Turkeys

The breeds of turkeys kept during 1968 were the Broad Breasted White and the Small White while the American Broad Breasted Bronze was re-introduced after a long absence. It was found that the difference in weight between the Broad Breasted White and the Small White was negligible and, as the two breeds are practically indistinguishable one from the other, the latter breed was eliminated by the end of the year when all the birds were sold for the Christmas lurch.

The demand for turkey eggs for hatching is always heavy during the March/April period. A few requests could not be met. A limited number of eggs was hatched and all the poults were sold when a day old. There is a great../..

great demand for turkey poults and any number hatched would be sold.

1000 Broad Breasted White day-old poults were received from the United Kingdom in September and are now being reared.

No. of eggs laid	Breakages & Infertile eggs	No. of eggs sold to Hospitals	No. of eggs sold for hatching	No. of poults hatched
12,302	1,974	4,570	4,712	1,046

Rabbits

An attempt to establish a few fancy breeds of rabbits was made in 1967 but, as all available space was needed for the utility breeds, the Dutch, English and the Checkered Giants were eliminated from the Section.

The breeds kept at present are the New Zealand Whites, the Californian Giant, the Flemish Giant and the Volvo Di Borgogna.

A feeding trial started on the 15th January, 1968, in the upper rabbitry. 32 New Zealand Whites does were divided in four groups of 8 each and each group fed on a different brand of pellets.

At the termination of the trials the findings will be analysed to find out the difference in feed conversion, the number of litter produced per doe per year and if the number of rabbits per litter and mortality are affected.

There is a steady demand for young breeding rabbits. A list of applicants is kept and sales are made strictly by rotation.

The following figures show the sales of rabbits made:

Breed	Bucks	Does	Total
New Zealand White	262	230	492
Flemish Giant	32	49	81
Californian	37	18	55
			628

The rabbit../..

The rabbit stud centre was heavily patronised as in previous years. The bucks used were the 3 utility breeds while the does brought for mating were usually of the local variety. It is now widely recognised that the litters from does sired by the selected bucks show a marked improvements in table qualities. Among the does brought for mating, cases of vent diseases are frequently found. These does are kept at the centre for treatment and their owners are notified (by post) when the does are cured and mated.

The number of successful matings during the year totalled 1202 and the following gives a breakdown month by month:-

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
128	164	126	120	84	54	51	56	131	122	89	77

Guinea Pigs

Guinea pigs and white mice were taken over from the Brucellosis Section and incorporated with the rabbit section in July, 1968. They were later transferred to an adapted part of the deep litter building. They are supplied to the Veterinary and University Laboratories where they are required for demonstration andother purposes.

Horticulture

As in previous years, the activities of this section during the period under review were directed:-

1. Towards growing enough fodder and roughage for the livestock kept at the Farm.

The demand for roughages increased tremendously during the year due to the fact that all livestock sections were enlarged.

Besides growing the normal kind of fodder crops, new varieties of lucerne and maize were experimented with. Besides, trials and experiments were carried very successfully with:

1. Kale - three varieties were tried namely:-
   a) Thousand Head
   b) Hungry Gap
   c) Marrow Stem
2. Fodder Beets

2. Carrying../..

2. Carrying out trials and experiments with established as well as new crops.

During the year under review besides a number of field trials, a full scale experiment was carried out on potatoes.

Object of experiment

The experiment was carried out in order to compare the yields of three different varieties of potatoes, made available to the Department by the Malta Union of Farmers, with a control variety, i.e. Arran Banner.

The three varieties were:-

1. Ulster Viscount - Short oval, medium in size, generally clean and attractive, skin white, flesh white to light cream, eyes shallow.

Foliage and tubers have a high yield resistance to many strains of blight.

2. Ulster Concord - Oval to long oval, medium in size, generally clean and attractive, skin white, flesh white to light cream, eyes shallow.

Foliage and tubers have a high field resistance to many strains of blight.

3. Pentland Dell - Long-oval and moderately thick with smooth pale yellow skins which slowly develop red-purple about the eyes on exposure to light. The flesh is creamy-white and the eyes which are shallow, are grouped at the point of the tuber.

The variety is suited to a moderately wide range of climatic conditions and has been grown successfully in certain low-rainfall, high temperature areas.

Conditions of cultivation

The experiment was carried out under normal conditions of cultivation. The plots were hoed and freed of weeds three times. Besides, the plots were flood irrigated six times.

Previous Crop

During the previous two years, the field was under

fruit../..

fruit tree seedlings, and prior to planting it was ploughed, treated with farmyard manure and then rotated.

Nature of Soil

The soil on which the experiment was carried out is second quality sandy loan which is considered ideal for potato cropping.

Sowing

The seed potatoes arrived in Malta on the 25th January,1968 and planting took place on 15th February,1968. The seed was out according to normal procedure followed by local farmers and planted at intervals of one foot apart in a row, with rows being one foot in between.

Design

The experiment was carried out on the latin square basis, consisting of replicated plots in the form of 4 x 4 units, as follows:

A	B	C	D
C	D	A	B
D	A	B	C
B	C	D	A

A - Ulster Concord
B - Ulster Viscount
C - Pentland Dell
D - Arran Banner

RESULTS - The plots were dug on 4th June,1968 and the following were the results:

Yield in Rotoli Per Plot
Plots - (15' x 15')

					Average
A) Ulster Concord	95	92	94	84	91
B) Ulster Viscount	92	87	98	95	93
C) Pentland Dell	88	68	86	84	82
D) Arran Banner Controll	78	81	84	78	80

	Yields in Qantars/Tomna	Tons/Acre
A) Ulster Concord	48.93	13.76
B) Ulster Viscount	49.90	14.04
C) Pentland Dell	44.09	12.40
D) Arran Banner	43.01	12.10

Observations../..

Observations

The most significant factors which emerge from this experiment were:-

1. On periodic inspections of the plots, it was found that Ulster Viscount which gave the highest yield per acre emerged first, followed by Ulster Concord which gave the second best yield. This result in fact conforms with the specifications of the respective varieties submitted by the plant breeder which classify these two varieties as both having an early stage of maturity.

Pentland Dell emerged third, whilst Arran Banner was last to emerge.

It is interesting to note that the fields in which the rest of the seeds were planted followed exactly the same pattern as explained above.

2. The varieties under experiment gave excellent results not only with regard to yield is concerned but also with regard to quality and shape of tuber. In all the three varieties, eyes were shallower and shape of tuber was better and more regular than in the control variety.

However, because of the excellent results obtained, further trials are planned with the same varieties, both on dry land and under irrigation. It would be interesting to find out whether the varieties under trial will maintain their superiority under dry land conditions. This is important due to the fact that over 80% of the area under potato cultivation in Malta is dry.

3. Growing seedlings for sale to farmers and amateur growers.

Again, this year thousands of young seedlings of all the major crops growing in Malta were sold to farmers.

Over a million onion seedlings of the 'Gialla Rocca' and 'Early Grano' varieties produced at the farm were sold to farmers at subsidized prices.

Besides, small amounts of vegetable seeds were supplied on cash to farmers.

CHAPTER X

VITICULTURE & OENOLOGY SECTION

VITICULTURE

A complete reorganization of the Buskett Grape and Wine Station was well in hand at the end of 1968.

a) Table Grapes

This Section was trained to a cordon, since this system offers considerable advantages in connexion with operations involving maintenance and control of fruit quality. The height of 2 ft. above soil level is still experimental in connexion with wind damage caused to vines during the critical post dormancy initial vegetative period. So far such training has proved to be very encouraging in this respect. The collection of local varieties have also been similarly trained.

b) Wine Grapes

This Section is being trained on two different rootstock varieties, namely, Paulsen 1103 and Ruggieri 140 for eventual observation and vinification trials. The training consists in a "head form" bearing well in mind to make such a proposition as economically feasible as possible to the grower.

c) Mother rootstock Section

The 140 vines in this Section have been trained to "head" and the following cuttings were obtained in connexion with the setting up of a trial rootstock nursery.

Variety	Number of Vines	Cuttings Planted	Taken	% Take
R. 140	60	2510	1791	72
D.Ridge	10	630	271	43
S.Creek	10	479	257	54
1045 P.	10	685	499	73
775 P.	10	550	469	85
420 A.	10	700	300	43
779 P.	10	600	538	90
1103 P.	10	825	475	57
225 R.	10	885	223	25

As a../..

As a further expansion to the above, in our attempt to curtail further importation of rooted cuttings, the following mother rootstock vines were planted:

R.140	-	534 specimens
P.1103	-	340 specimens

It is envisaged that by 1970 the first cuttings will be available for propagation.

d) Sub-Stations

Two new sub-stations were planted whilst three other sub-stations in the Burmarrad area were grafted with new table and wine grape varieties. This section is now responsible for nine sub-stations spread over the Island.

e) Rubble Wall Scheme

Eight new applicants each had 60 vines planted against the rubble walls they had to offer. The sum total is now at 42.

CHAPTER XI

LAND AND WATER USE SECTION

The year 1968 proved to be a period of rapid expansion for the Land and Water Use Section; the spectrum of activities was further widened, the range of public services extended, the laboratory and scientific work intensified and, as was to be expected in such circumstances, the manpower increased to meet the load.

2. Classification of Activities

The activities of this Section could be grouped as follows:-

A. Legal: Enforcement of the following Acts

(i) The Fertile Soil (Preservation) Ordinance (1935);
(ii) The Agricultural Returns Ordinance (1935);
(iii) The Animal Food and Feeding Stuffs Act (1965);
(iv) Agricultural Leases (Reletting) Act (1967);
(v) The Irrigation Ordinance (1939).

B. Administrative:

(i) Distribution of water by departmental and impressed bowsers;
(ii) Running the Channel Water System;
(iii) Supervision of the construction of Water Reservoirs under the Loans and Grants Scheme;
(iv) Agricultural Land Registration;
(v) Assessments of crops and of damage to agricultural land for compensation purposes;
(vi) Responsibility for the Fruit-Tree Nursery at the Government Experimental Farm.

C. Scientific:

(i) Advisory work on Soils, Water, Nutrition and allied subjects;
(ii) Analyses of Soils and feedingstuffs;
(iii) Fertiliser experiments;
(iv) Irrigation experiments;
(v) Animal nutrition experiments;
(vi) Hydroponics.

3. Staff../..

3. Staff

The Section, which is administered by the Agricultural Chemist, was strengthened during the year by additional staff as follows:

A. A German Fertiliser Expert - Mr Julius F. Obermaier - joined the section within the scope of a bilateral programme between the Governments of Malta and that of the Federal Republic of Germany.

B. An analyst - Mr Robert Hunt B.Sc. a member of the British Voluntary Services, came to Malta through the kind cooperation of the Catholic Institute for International Relations.

4. Laboratory Service

There can hardly be any doubt at all that the laboratory service for the analysis of soils, waters, fertilisers and feedingstuffs is making a significant contribution towards the development of horticulture and agriculture in these Islands. It is worth recalling that early in the year the accumulation, at dangerous levels, of soil salinity on a large horticultural unit, specialising in strawberries under cloches, was immediately diagnosed before too much harm was done. Remedial measures, tailored according to the laboratory analysis and executed within a short space of time with the assistance of this section, saved about £2,000 worth of strawberries intended for the early London Market.

During the year, 825 samples of soils, waters, feedingstuffs, fertilisers, and leaves were analysed as

shown../..

shown in the following table:

Month	Soils	Water	Feeding-Stuffs	Fertilisers	Leaves
January	30	21	-	-	-
February	152	3	-	-	-
March	105	4	-	1	-
April	59	26	-	4	-
May	28	6	1	1	-
June	32	4	-	-	-
July	16	9	-	-	-
August	5	13	-	-	-
September	21	20	3	5	-
October	57	23	-	4	-
November	40	31	11	1	3
December	62	20	2	1	1
	607	180	17	17	4

5. Water Distribution

In the field of water use the section is responsible for:

(a) Vetting of applications for the use of tap water for irrigation.

(b) Distribution of water drawn from reservoirs by five departmental motor bowsers to public sites under the control of the Public Gardens Section and to private farms.

(c) Distribution of water by five impressed bowsers to registered farmers.

(d) The Channel Water System which supplies water to farmers in Lija, Attard, Balzan, Mriehel and St. Venera.

(e) The Chadwick Lakes which provide irrigation water to farmers in the Attard, Lija and Rabat areas.

(i) The../..

(f) The underground water cisterns which are found in various public squares in most towns and villages.

(g) The Loans and Grants Scheme for the repair and for the construction of water reservoirs.

The number of applications for tap water, considered during the year, numbered 1,635; each application was studied and classified A,B,C and D before being returned to the Water Works Department; those classified as A were recommended in full, the B's recommended with decreased allocation of water, the C's not recommended and the D's recommended to receive water at a later date (e.g. irrigation of orange trees in June).

The five departmental bowsers were utilised to supply water to the public gardens during office hours and to private farms or gardens outside such hours. Each person receiving a bowser-load of water (about 1,400 gallons) was charged 10 shillings per trip. During May, June and July farmers, who had failed to obtain their usual tap water allocations, were charged at the reduced rate of 6s.6d for bowser loads of water delivered during office hours.

The amount of revenue collected during the year through this service was £814.19s.6d and the total number of trips was 2814. The monthly breakdown of these figures is as follows:-

Month	Bowser-loads of water to Public Gardens	Bowser-loads of water to Private Persons	Revenue
March	42	62	£31. 0. 0.
April	66	161	80.10. 0.
May	174	199	70.14. 6.
June	155	336	132. 7. 6.
July	175	290	132. 7. 6.
August	159	310	155. 0. 0.
September	126	274	137. 0. 0.
October	109	64	32. 0. 0.
November	16	30	15. 0. 0.
December	8	58	29. 0. 0.
	1,030	1,784	£814.19. 6.

Five private bowsers were impressed as in previous years to distribute water to farmers.

The capacity of the impressed bowsers was about 700 gallons (i.e. half that of the departmental ones) and the fee charged to registered farmers was fixed at 2s.6d per bowser. Farmers could register for water at six different centres as follows:-

Mondays - Naxxar Police Station
Tuesdays - Zabbar Police Station
Wednesdays - Kirkop Police Station
Thursdays - Zebbug Police Station
Fridays - St.Paul's Bay Police Station
Saturdays - Rabat Police Station

When the registration closed, farmers were notified by letter to call for water on a certain date to direct the bowser driver to where the water was required. The number of trips and the amount of revenue collected was as follows:-

Month	Bowser-loads	Revenue
June	300	£79. 2. 6d.
July	759	£108. 5. 0d.
August	718	£89.17. 6d.
September	714	£89. 5. 0d.
Total	2,491	£366.10. 0d.

Numerous improvements were carried out on the Channel Water System. Steel doors with padlocks were fixed on all the farmers' supply points along the Wignacourt Aqueduct in the Mriehel area. A by-pass was made between the main pipe line from the borehole on to the St.Venera line and as a result of this

arrangement../..

arrangement water supplied to the St.Venera farmers, San Anton Public Gardens, the Governor-General's private Gardens and to "Ta' Fgieni" Reservoirs could be controlled separately. Repairs to stone water channels by the labour force of this section had to be carried out in six different places. Farmers were charged 5d per hour flow in winter and 8d per hour flow during Summer and the amount of revenue collected was £233.4s.0d. The monthly breakdown of flow hours and the revenue collected including the supply of water from Chadwick Lakes is as follows:-

Month	Flow Hours	Rate	Revenue
January	142	5d/Hr	£2. 19. 2d.
February	-		-
March	72		£1. 10. 0d.
April	861	8d/Hr	£28. 14. 0d.
May	1,171		£39. 0. 8d.
June	984		£32. 16. 0d.
July	959		£31. 19. 4d.
August	1,056		£35. 4. 0d.
September	951		£31. 14. 2d.
October	804	5d/Hr	£16. 15. 0d.
November	515		£10. 14. 7d.
December	163		1. 17. 1d.
Total	7,678		£233. 4. 0d.

During the year, fifty applications to construct or repair reservoirs under the Loans and Grants Scheme were considered but only fifteen were recommended.

6. Soil Preservation

Soil preservation in these islands is regulated by the provisions of the Fertile Soil (Preservation) Ordinance of 1935.

During../..

During the year 712 building notices were received and about 71,792 cubic yards of soil were removed to new sites. The monthly breakdown of these figures as compared with last year's figures is shown in the following table:-

Month	Building Notices 1967	1968	Sites inspected 1967	1968	c/yds removed 1967	1968
January	49	43	23	19	2,727	2,096
February	35	56	43	47	4,586	4,049
March	38	59	49	42	10,307	9,226
April	25	80	17	28	7,135	5,556
May	55	87	20	44	3,292	5,039
June	35	58	13	6	2,206	2,050
July	29	42	21	26	2,835	3,196
August	48	46	33	25	4,326	19,057
September	102	54	16	29	11,910	5,296
October	93	76	34	22	2,295	4,161
November	52	70	37	28	7,743	4,730
December	36	41	20	24	3,871	7,236
Total	597	712	326	340	63,233	71,692

7. Assessments

The demand for crop assessments from Government Departments in connexion with industrial and urban development continued to increase and the Lands Officer, assisted by the Soil Inspector completed 263 assessments during 1968. The number of assessments carried out during the last two years was as follows:-

Departments	1967	1968
Public Works Department	83	98
Malta Electricity Board	182	106
Lands Department	15	43
Agriculture Department	5	12
Education Department	3	4
Water Works Department	9	-
Total	297	263

8. Land../..

8. Land Registration

The number of land transfers, recorded during the year, was 450. The transfers of land are the result of various factors such as death, emigration, abandonment of land for more remunerative work, infirmity and erection of factories or houses or construction of roads on agricultural land.

9. Fertilizer Project

During the year the Governments of Malta and the Federal Republic of Germany entered into a bilateral agreement whereby the German authorities were to supply fertilizers and an expert and the Malta Government was to provide all local facilities for the running of this project.

Mr Julius F.Obermaier, the German fertilizer expert, arrived in Malta in March 1968 and, after numerous familiarisation visits to local farms and intensive studies of previous fertiliser experiments, he prepared a "Plan and Programme on Fertiliser Extension and Demonstration".

In mid-July the following fertilisers were received from Germany under this project and thus large-scale field work could be immediately initiated:

(A) Straight fertilisers

(i) Sulphate of Ammonia (21%N)	- 1 ton
(ii) Ammonium Sulphate Nitrate (26%N)	- 1 ton
(iii) Superphosphate (18-21% P_2O_5)	- 3 tons
(iv) Sulphate of Potash (48-50%)	- 1 ton

(B) Compound fertilisers

(i) 15.15.15	- 2 tons
(ii) 12.12.19	- 2 tons
(iii) 13.12.20	- 2 tons
(iv) 12.12.17.2	- 2 tons
Total	14 tons (280 bags)

of which 30 bags were sent to be used in Gozo while the remainder were kept for use in Malta.

Field../..

Field experiments and demonstrations were started in August at the Ghammieri Experimental Farm, Malta, and at the Xewkija Experimental Centre in Gozo, twelve experiments with both straight and compound fertilisers being laid out on fodder crops, cereals and potatoes. In cooperation with leading progressive farmers on both islands, fertiliser demonstrations were set up on their own fields on the main winter crops such as sulla, barley, wheat and potatoes. The number of such fertiliser demonstrations was as follows:

Sulla	-	12
Barley	-	9
Wheat	-	12
Potatoes	-	15
Total		48

Before the fertilisers were applied, a soil sample was collected from each site and analysed at the section laboratory. The soil analyses were correlated to the number of plants per unit area and to the yield.

Advice on the use of fertilisers and on the solution of fertilising problems was givem to 63 farmers and private persons.

10. Hydroponics

A small glasshouse, measuring twelve feet by twenty five feet, was converted to hydroponics culture during the year. In December the house was planted with tomatoes but it was too late for results by the end of the year.

11. Fruit Tree Nurseries

These nurseries consist of a two tumoli under permanent plantation, two tumoli under almonds and two tumoli under seedlings for distribution to farmers. During the year 1,000 fruit tree seedlings were produced and distributed to farmers.

12. Visits../..

12. Visits Abroad

The Junior Agricultural Chemist was granted a fellowship by the World Health Organisation on the Public Health aspects of sewage water for irrigation. This fellowship which lasted from the 6th July to the 31st October included visits to various States in the United States as well as to the United Kingdom, Italy and Israel.

During May the Agricultural Chemist represented the Maltese Government at the Third Session of the Working Party on "Water Resources and Irrigation" of the European Commission on Agriculture of the Food and Agriculture Organisation. He was the vice-chairman of this conference and took an active part in the proceedings.

13. Other Matters

Research on the use of local seaweed was initiated during the year. Analyses of the various types of seaweeds and seagrasses were made.

CHAPTER XII
GOZO BRANCH

An estimated 75% of the Gozo population make their living out of the soil and the breeding of livestock.

The area of cultivated land in Gozo is about 27,000 tumoli out of which 2% is irrigated.

The total amount of rainfall in Gozo during 1968 was 16.80 inches.

Horticulture

Steam sterilization of glasshouses at the Government Farm and of private farmers' glasshouses was started in August and completed in September. In all 10 glasshouses were sterilized.

Experimental Work

1. Tomatoes under glass

   Aims: a) Trial on P2 05 feeding in an unheated greenhouse.

   b) Comparison of 2 watering and feeding programmes

Phosphatic fertilisers are not popular since in limestone soils containing a large proportion of active calcium carbonate, may cause progressive and irreversible fixation of a high percentage of the phosphatic acid in the form of certain phosphate of calcium.

Superphosphate has been used in this experiment mainly because of its rapid action, its acidifying action and its solubility.

The Cambridge Alumbrite glasshouse was steam sterilized, banked and flooded. It was planted lengthwise. Each double row was divided into four plots so that the following latin square was obtained:

(1-20)../..

	ii-iii	iv-v	vi-vii	viii-ix
(1-20)	P3	P0	P1	P2
(21-40)	P1	P2	P3	P0
(41-60)	P2	P3	P0	P1
(61-80)	P0	P1	P2	P3

Treatment

a) P.O. No phosphate Fertilizers
Before planting 2 lbs.6 ozs. hoof and horn and 1 lb.3 ozs. of Sulphate of Potash corresponding to an N.P.K. ratio of 116 : 0 : 211 p/Ha

P.1. Before planting 6 lbs.J.I.Base 116-160-211 p/Ha

P 2. Same base dressing as in P.1.plus 2 lbs.6 ozs. granulated Superphosphate p/plot on 3/2/68.

P.3. Same treatment as in P.2 plus 2 lbs.6 ozs. of Superphosphate p/plot on 3/2/68.

Moreover the plots were given a routine N.K. feeding according to the watering programme.

b) Programme of Watering

i) Watering 2 to 3 times a week to meet the estimated water requirements.

ii) Watering an average of once a week.

General Cultural Methods

The seed was sown on 16th August 1967 and germinated on 20th August, 1967. Pricked off on 28th August, 1967. Planted on 22nd September, 1967.

Temperatures were taken at 7.30 a.m.,12 o'clock and 4.30 p.m. every day.

The yield, resulting from the different treatments was as follows:

P2	-	650 lbs
P0	-	636 "
P1	-	637 "
P3	-	673 "
		2596 lbs.

These../..

These experiments showed that with sufficient and regular waterings and feedings the yield can be increased, the quality improved whilst the size of the fruit is satisfactory.

As to the comparison of the 4 P2 05 treatments the data obtained do not show any significant conclusions.

2. Observation Trials on Varieties of Melons and Water Melons.

10 varieties of melons and water melons were used namely:-

a) Melons (Cercumis melo)	Origin
i) Local	
ii) Number One	Israel
iii) Haogen	"
iv) Improved Yokneam	"
v) Ananas Yokneam	"
vi) Ananas Hybrid	"

b) Water Melons (Citrullus Vulgaris)	
i) Malali	Israel
ii) Florida Giant	"
iii) Chilean Black	"
iv) Charleston Grey	"

General Cultural Methods

The seed was sown on 25th April, 1968, on site at a distance of 3 ft. apart in the rows and the rows 4 ft. apart.

The seed germinated on 2nd May, 1968. The crop was weeded, thinned, hoed and cultivated in between the rows.

The crops were cleared at the end of August, 1968.

Part of the crop was treated with farm-yard manure whilst part of it was left unmanured.

Conclusion../..

Conclusion

Evidently the manured plots gave a higher yield.

The following table gives the comparative yield of the varieties:

Variety	Yield	No. of Fruits	Average Weight of Fruit	Date of Picking First	Last
Local	58 lbs. 12 ozs.	17	3 lbs. 7 ozs.	13th Aug.	20th Aug.
Number One	25 " 10 "	13	2 " 0 "	15th Jun.	20th July
Haogen	25 " 7 "	16	1 " 9 "	20th July	6th Aug.
Impr. Yokneam	31 " 11 "	14	2 " 4 "	29th July	13th Aug.
Ananas Yokneam	40 " 13 "	14	2 " 14 "	29th July	27th Aug.
Ananas Hybrid	40 " 12 "	18	2 " 4 "	"	"
Malali	54 " 2 "	10	5 " 7 "	"	6th Aug.
Florida Giant	36 " 4 "	9	4 " 0 "	"	13th Aug.
Chil. Black	19 " 3 "	5	3 " 13 "	6th Aug.	30th Aug.
Charleston Grey	81 " 12 "	12	6 " 13 "	20th July	27th Aug.

Under the conditions of the trials the sugar melon Varieties Improved Yokneam, Ananas Yokneam and Ananas Hybrod seem to be very good croppers and suit the local conditions but, before advising farmers to grow them unreservedly, further trials should be carried out to get an idea of the potential returns. Variety Number One seems to be more adapted for an early crop while Haogen seems rather poor.

3. Observation Trials on Egg-plants and Sweet Peppers in Polythene Tunnels 'Nantais Type'.

Varieties

The following varieties were used:

Sweet Peppers (capricum annum) - Californian Wonder
Gambo
Yellow Naharija

888../..

Egg Plants (solanum Melongena) - Black Beauty
Local
Long Violet

Cultural Operations

The egg plants and sweet peppers were sown on the 18th December and 26th December 1967 respectively. The seeds were first soaked in well water for 24 hours then kept humid in a mixture of straw and moss to hasten germination. They were sown in a frame manured with fairly fresh horse manure.

They were planted on the 15th March, 1968 and covered with polythene tunnels 3 ft. wide by 1¾ ft. high.

The tunnels were opened at the Eastern side in the morning and closed in the afternoon when the weather was bright. The tunnels were left closed when the weather was bad. The polythene tunnel was removed on the 14th June.

The sweet Pepper Trial was cleared on the 8th July while the Egg plants were cleared on the 1st October, 1968.

Observation with Polythene Tunnels

Polythene tunnels were used in the hope of pushing up earliness. In this trial what would have been gained with polythene has been lost by transplanting the plants at a very advanced stage. However the plants under polythene gave earlier fruits than the ones planted in the open.

Nevertheless, the fact that the crop, grown under polythene, reached maturity moderately early, can be looked upon as an encouragement for further investigations with tunnels.

4. Cucumbers../..

4. Cucumbers

Observation Trials on different dates of planting, cultural operations

The cucumber plants were planted in a glasshouse on the following dates:

1st Trial	12th September 1967	Density	10 plants
2nd Trial	3rd October 1967	Density	14 plants
3rd Trial	24th October 1967	Density	17 plants
4th Trial	14th November 1967	Density	15 plants

The yields of these Trials were as follows:

Trial No.	Total Yield lbs.	No. of Fruits	Theoretical total yield per acre
1	260.2	232	63,041 lbs.
2	124.12	137	32,435 lbs.
3	199	225	45,173 lbs.
4	145.12	149	35,272 lbs.

In spite of several difficulties in the interpretation of the data one can conclude that, in unheated conditions, the earlier the crop is planted the heavier the yield.

5. Other Experimental Works

Other trials were carried out during the year mainly with cabbages, cauliflowers, brussel sprouts, onions, carnations, roses and strawberries.

These trials were still in progress at the end of the year under review.

6. Fruit Development

One of the greatest activities in Gozo is the development of the fruit industry.

About../..

About 8 tumoli of almond seeds were sown for the propagation of fruit seedlings for eventual distribution to farmers at a nominal price.

About 15,000 rootstock of different kinds of fruit trees were propagated during the year. About 8,000 citrus seedlings were planted and it is estimated that in the near future the demand for citrus trees will be fully met from local nurseries, without having to resort to importation.

The following fruit trees were sold during the year from the Gozo Nursery to farmers in Malta and Gozo:

	Gozo	Malta
Peaches	1239	1760
Pears	546	940
Apples	538	1440
Plums	274	1000
Pomegranates	78	61
Bambinella	94	220
Figs	17	60
Mulberries	5	31
Apricots	55	9
Kaki	74	31
Cherry	32	52
Olives	15	63
Loquats	158	124
Grafted Vines	256	270
Total	3381	6061

7. Viticulture

(a) Wine Regulations

These Regulations continued to be strictly enforced.

(b) Vine../..

(b) Vine Plantations in Gozo

The following are the figures for vine rootstock sold to Gozo Farmers during the last 5 years:

Year	Number of Vines
1964	19,281
1965	12,680
1966	13,816
1967	11,792
1968	19,797

For the first time 14,000 vine rootstocks were produced in the Gozo nursery.

(c) Government Experimental Vine Station

These vineyards, laid out in 1963 comprise 21 varieties of Vine grapes and 18 varieties of table grapes.

A new system of trellising for both wine and table grapes has been established and it will serve as a demonstration to farmers.

These vineyards are always properly maintained and are visited by many farmers. Several varieties of grapes promise to be good yielders of grapes.

(d) Experimental Sub-stations on Privately owned lands.

The establishment of a number of sub-stations on privately owned lands as envisaged in the Five Year Development Plan has now been carried out. Two sub-stations were established during the year.

Ten sub-stations were set up in wine growing areas in Gozo as follows:

1965	-	2 sub-stations
1966	-	3 " "
1967	-	3 " "
1968	-	2 " "

Seven../..

Seven out of these sub-stations have already been grafted whilst four were trellises.

In most cases the farmer's co-operation in the establishment of the station is most satisfactory.

(e) Vines against Rubble Walls

The rubble wall scheme, i.e. the planting of vines against rubble walls envisaged in the Five Year Development Plan was continued.

During 1968, nine farmers had 60 vines planted against walls.

The scheme now comprises the following:

1965	-	7 farmers
1966	-	23 "
1967	-	4 "
1968	-	9 "
		43 farmers x 60 vines each

8. Public Gardens, Plantations and Afforestation.

(a) Villa Rundle

These gardens, covering an area of 4 acres, are the only recreational grounds in Victoria.

An aviary, as well as a Fish Pond was constructed. These gardens are administered jointly with the Gozo Civic Council.

A great number of annual and biennial flowers as well as many flowering bulbs was planted in these gardens making a wonderful display of colours espcially during Spring.

The gardens are open to the public all the year round and are very popular.

The Gozo Agricultural and Industrial Show is held in these gardens on the 15th August of each year.

(b) Nurseries../..

(b) Nurseries

Two Ornamental Tree Nurseries are to be found in Gozo at Dawwara and Kercem.

These Nurseries are now supplying all Departmental requirements as well as the public demand for trees and shrubs. The Nurseries are open to the public and many are the visitors. Advice on gardening is given by the staff on the spot.

During the year about 100,000 cuttings of ornamental shrubs and trees were propagated in open ground and in pots and other receptacles. Hundreds of cuttings are rooted in the two Mist Propagation houses at Dawwara.

A re-grouping of trees and shrubs was effected in these Nurseries during the year.

(c) Public Plantations and Afforestation

All plantations along public roads, flower beds, playing fields and open spaces were duly attended to as regards strutting, hoeing, watering and pruning.

Every endeavour was made to add more trees and shrubs in newly constructed or widened roads, flower beds and open spaces.

The total number of trees and shrubs added or replaced during the year was the followsing:

Number of trees added	-	2156
Number of shrubs added	-	3110
Number of trees replaced	-	491
Number of shrubs replaced	-	380
		6137

comprising the following kinds:-

Ficus, Tamarix, Ailanthus, Oleander, Morus, Jacaranda, Casuarina, Acacia, Pittosporum, Deutia, Hibiscus, Evonymus, Coprosma, Calicarpa, Lantana, Cypress, Palms,etc.

About../..

About 2 acres of land at "Ta'Blankas", limits of Xewkija, were planted with Acacia and another 2 acres at Qbajjar Bay, limits of Marsalforn, were planted with Tamarix.

The following were the sales from the Public Gardens and Nurseries during the year:-

Vegetables	- 3,393	rotoli
Vegetable seedlings	- 29,035	
Flower seedlings	- 3,455	
Flower bouquets	- 263	
Flower wreaths	- 269	
Plants in Pots	- 2,645	
Palm leaves	- 109	
Roses	- 936	dozen
Carnations	- 108	"

9. Animal Health and Production

a) Disease Eradication Scheme

T.B. and Brucellosis testings under the Scheme continued during the year. Constant advice continued to be given to breeders about precautionary measures, herd management and other livestock problems.

b) Civil Abattoir

The number of livestock heads slaughtered at the Gozo Abattoir within and out of visit during the year 1968 amounted to 4,429 and 220 respectively.

c) Government Livestock Centre

The main scope of this Centre is to provide good livestock and stud services to Gozo breeders.

Many farmers availed themselves of the free stud services provided by this Centre and the number of servicings was as follows:-

Swine	-	231
Bovines	-	265
Rabbits	-	340
Caprines	-	162

The milk../..

The milk yield of the flock of sheep continued to improve, the average being 92 gallons per ewe per year.

The Centre at present maintains the following livestock:

Swine	- 2 boars	6 sows
Bovines	- 2 bulls	
Caprines	- 2 billy goats	
Ovines	- 13 sheep	19 lambs
Fowls	- 15 ducks	14 turkeys, 6 pheasants
	6 guinea fowls	

Rabbits:	Flemish Giant	13	Does	8	Bucks	8 sucklings
	New Zealand white	11	"	8	"	16 "
	Local	29	"	12	"	24 "
	Dutch	2	"	3	"	

d) District Rabbit Centre

This Centre was well kept during the year and farmers continued to make use of it.

The number of services during the year was 738.

e) Artificial Insemination

Mr George Farrugia, Veterinary Assistant, underwent a course in Artificial Insemination in England between the 22nd April and the 5th July, 1968.

Artificial Insemination in Gozo started on 18th December, 1968. Propaganda was resorted to, to induce farmers to avail themselves of this new service. Thirteen farmers had availed themselves of this service up to the end of the year.

Fresh semen, sent to Gozo from Malta once or twice a week, was used.

The following figures show the work carried out during the year by the Veterinary Assistant in Gozo:

Vaccination../..

Vaccination of Swine Fever	- 509
Vaccination of Swine Erysipelas	- 822
Vaccination of Poultry - Fowl Pox	-31900
Vaccination of Poultry - New Castle Disease	-25300
Vaccination of Kids (Brucella)	- 225
Samples of Milk taken (Goats)	- 22
Samples of Blood taken (Goats)	- 2753
Advisory Visits: Poultry Units	- 342
Cowsheds	- 94
Herdsmen	- 41

10. Land and Water Division

a) Fertile Soil Preservation Ordinance 1935

This Section has done everything possible to cope with the provisions of this Ordinance. The building boom has extended to Gozo and a very careful watch has to be kept to ensure that no soil is lost to Agriculture.

The following table shows the work carried out during the year by the Agricultural Inspector responsible for the enforcement of soil control.

Month	Building	Sites Inspected	Cubic Yards of Soil Removed
January	52	17	287
February	4	19	251
March	18	15	130
April	35	24	263
May	7	26	255
June	14	16	149
July	20	13	-
August	11	-	228
September	41	-	-
October	2	14	295
November	45	8	1000
December	3	15	275
	252	167	3133

b) Land../..

b) Land and Crop Assessments (Act No.XVI of 1967)

The demands made by the Public Works Department, the Malta Electricity Board and the Water Works Department for crop assessments is increasing heavily.

The following data shows the number of assessments carried out during the year:

Public Works' Department	- 98
Malta Electricity Board	- 40
Water Works' Department	- 16
	154

c) Agricultural Land Registration 1935

The number of transfers of land registered during 1968 was 284.

d) Land Usage - Experimental Work

Several experiments are being carried out in Gozo mainly with different fertilizers in conjunction with Mr J.Obermaier, the Fertilizer Expert sent by the Republic of Germany.

An Agricultural Inspector was attached to Mr Obermaier to carry out various trials with fertilizers.

11. Extension Service
Loans and Grants

a) The Extension Service was during the year strengthened by an Agricultural Assistant and a Temporary Agricultural Inspector.

Visits and inspections by the Extension Service in Gozo include:-

a) Inspections of private glasshouses
b) Inspections to herdsmen on health management and diseases
c) Inspections of fruit orchards

d) Inspections../..

d) Inspections of Poultry Units

e) Vetting of applications under the Loans and Grants Scheme such as calf pens, pig units, etc.

f) Distribution of Sorghum under the Sorghum Scheme.

b) Loans and Grants Scheme

The following number of farmers benefited from Government financial assistance during the year:

18 farmers for purchasing a Rotary Cultivator

30 farmers have also purchased through the Department 30 rabbit hutches at a subsidized price.

100 farmers were given 50% subsidy for the purchase of onion seed.

c) Loans and Grants under the Sorghum Scheme

One farmer was also given financial assistance to construct a Pig Unit whilst 56 farmers received grants for the purchase of pigs.

12. Plant Protection Service

The plant protection team was kept busy throughout the whole year.

The following crops were sprayed during the year:

Soft Fruit	-	429 trees
Citrus	-	700 "
Potatoes, vines and other crops	-	101 tumoli

In addition 264 fruit trees, 16 tumoli of crops and 1000 ornamental trees and shrubs on Government lands were also sprayed against pests and diseases.

CHAPTER XIII
CO-OPERATIVE SOCIETIES

The Co-operative Society Section is entrusted with the registration and supervision of the Co-operative Societies as required by the Co-operative Society Ordinance and Regulations of 1946, the principal duty being the auditing of the societies' accounts.

The work of this section was hampered by the lack of staff, which only in the latter months of 1968 was brought to full strength. A heavy back-log of auditing made this section's work more difficult.

The year 1968 saw the winding up of two societies, namely (a) the Mellieha Agricultural Equipment Co-operative Society and (b) the National Co-operative of Poultry Breeders. The former went into voluntary liquidation, although solvent, as its members felt that the need of the common use of machines, which had been donated by CARE, no longer existed, as most of the members now owned their own machines.

For various reasons, the activities of the other Society petered out with the result that financial difficulties forced its members to go into voluntary liquidation. The Farmers' Wine Co-operative Society's new Winery at Burmarrad, built with Government financial assistance, neared completion and the production of wine would soon be made here.

The Farmers' Central Co-operative Society, being the mother society of 10 farmers district Co-operatives, held its annual general meeting after a break of 4 years in Summer 1968. Efforts are constantly being made by the Co-operative Section of the Department to make Co-operatives abide strictly by the provisions of the Ordinance to hold their general meetings annually but, for one reason or other, these Societies are finding it difficult to comply. The Co-operative Section had to tackle many difficulties and overcome many obstacles.

1968 saw the introduction and implementation of the Registrar's policy of informing all committee members by means of circular letters of correspondence between this office and the respective co-operative.

The following is a break-down of active Co-operative Societies:

Primary Supply	1 Co-operative	93 Members
Agricultural Service	2 Co-operatives	105 "
*Multi-Purpose	3 Co-operatives	1647 "
Marketing	12 Co-operatives	713 "
		2558 "

* One Multi-purpose society is also a Mother Society of ten Marketing Farmers' Societies.

CHAPTER XIV
THE FISHERIES SECTION

The efforts to encourage operators to increase their landings and to lessen the financial hardships attendant to the trade, were kept up through the provision of the usual administrative and technical services, within the framework of the set up of the Division and the funds available for the purpose.

The Fishing Equipment Supply Service provided the industry with most of the required material at low or subsidized cost. The Marketing Scheme continued to prove its worth by the assurance of ready payment for the fish landed at the wholesale Fish Market; fishery protection patrol by the M.V.Hannibal acted as a deterrent to aliens fishing in territorial waters; extension advice in the use of electronic equipment was given to a number of progressive fishermen and a course in elementary navigation and chart reading was held at the lecture room of the Fisheries Building. In addition the Division kept up its activities towards the solution of problems connected with mooring, dry-berthing, allocation of sites, slipping and many other items, towards the alleviation of the difficulties fishermen are continuously faced with in their uphill drive.

A. Fresh Fish Landings

The unsuitable weather conditions which prevailed during both the lampara and the lampuki seasons were mainly responsible for a substantial drop in the total landings for the year under review.

Whilst in 1967 the catch totalled 1,872,730 rotoli (1) or just over 1,463 tons in 1968 it came up to 1,513,165 rotoli or 1183 tons 16 cwts, a drop of 359,565 rotoli or about 283 tons.

The difference in the lampara landings, consisting mainly of Sawrell (Trachurus Mediterraneus), Vopi (Boops Boops) and Kavalli (Scomber Scomber) was not as marked as that of the kannizzati season. Indeed that of the former was 48,739 rotoli (371,715 rotoli for 1967 less 322,976 rotoli for 1968) whilst that of the latter was 265,984 rotoli (1,003,637 rotoli for 1967 less 737,653 rotoli for 1968).

(1) 64 rotoli = 1 cwt.

The fish../..

The fish caught in the kannizzati season, which extends from mid-August to the end of November, are the lampuka (Coryphoena Hippurus) and the fanfru (Naucrates Ductor) and the tunaġġ (Euthynnus Alletteratus) besides several other species. However this year the schooling of these species was on a much less prolific scale, accounting for a drop of around 61,000 rotoli, the catch in 1967 having been 110,216 rotoli, whilst that in the kannizzati season of the year under report was only 48,404 rotoli.

The winter catches (January to April) were more or less on the same plane as those of the previous year - 335,075 rotoli for 1967 against 324,628 for 1968.

The techniques used during winter are trawling, pot-fishing trammel and gilling nets and bottom long lines. The varieties are quite numerous and far more choice in quality than the seasonal ones but owing to the relative scarcity of resident demersal and semi-pelagic fish in our waters the quantities caught fall short of the ever-increasing demand.

Some of the species caught are Vopi (Boops Boops), Sawrell (Trachurus Mediterraneus) by pots; Raj (Raja Alba), Merluzz (Merluccius Merluccius), Qarnit (Octopus), Trill (Mullus Surmuletus) by the trawl net; Mazzola (Squalus Acanthias), Xkatlu (Centrophorus Granulosus) Ghadma (Astripiglia Cuculus) by bottom long lines and Pixxiplamtu (Lamna Masus) by anchored lines.

The poor catch was compensated by the high price the fish fetched, a consolation for the fishermen but obviously not one for the consumer. Indeed in terms of cash the wholesale price at which the 1968 landings were auctioned came up to £340,950 whilst that for 1967 was £346,009 a difference of barely £6,000 against a difference of 359,565 rotoli in the total landings.

Importations of fresh fish, all from Italian "peschereccì" totalled 15,312 rotoli in 1968 against 30,486 for the previous year, the relative wholesale values being £5,486 and £7,231 respectively.

The total../..

The total fresh fish landings for 1968, including importations, came up to 1,528,474 rotoli against 1,903,216 rotoli for the previous year.

A comparative statement showing monthly catches with the relative wholesale and retail values in respect of 1967 and the year under review is enclosed at Table 18.

B. The Fishing Equipment Supply Service.

The acquisition of fishing equipment was made with greater efficiency as a result of the higher knowledge of the properties of the material acquired through the more sophisticated tests that have been possible in the last few years through the cooperation of the Standards Laboratory and the acquisition of better testing services.

As a result of these tests it was possible to introduce better netting, especially tuna tangle nets, which have been made available to the St.Paul's Bay fishermen at considerably cheaper prices but at the same time of a greater tensile strength than heretofore.

The material purchased consisted of synthetic netting of all types, cordages, polyethelene Twine, Longline equipment, corkwood, lamps, floats and hemp lines.

The purchases, all by public tender, amounted to £9,927, the sales to £8,604 and the subsidies allowed on nylon nets and corkwood were to the value of £268.

Table 20 gives details of all the purchases made during the year

C. Loans and Grants to Fishermen

The emphasis of financial assistance during 1968 was more on the construction of craft than for other purposes. Indeed, out of a total of £23,900, awarded to 19 fishermen, £18,765 were given out, in the form of 50% loans and 30% grants for the construction of fishing boats. In this case recipients are required to contribute 20% of the project themselves.

The balance../..

The balance was awarded (a) £1,600 for the purchase of equipment, repairs and overhauls - for which recipients contribute 30% of the project; (b) £1,069 as 40% grant for the replacement of petrol by diesel marine engines, the recipients making a contribution of 60%; and (c) £2,468 for modification to craft the recipient contributing 20% himself.

A detailed statement showing the loans and grants made during the year, under the four separate heads of the scheme is given at Table 19.

D. Fuel Subsidies

During the year under review the fuel subsidies issued were as follows:-

Petrol coupons - 4,450 gallons (1/6 for every gallon)	- £334
Diesel coupons - 195,907 gallons (-/3d for every gallon)	- £2,337

The subsidy is paid only to professional fishermen, that is to those operators whose only source of income is fishing.

In respect of petrol the issues are made on the basis of 1 gallon per ½ horse power of the engines per month; and in respect of diesel -/3d per gallon consumed for fishing purposes is issued against the presentation of diesel pump receipts.

The chits are surrendered to the fuel pump proprietors; These in turn transmit them to the issuing firms who are repaid by the Department on presentation of the chits covered by the respective statements.

E. Propaganda and Research

Dissemination of information and advice on fisheries development and subjects of general interest to the local industry continued to be imparted through regular Sunday morning programmes for fishermen over the Rediffusion and in the publication 'Agrikoltura', which incorporates the former fisheries pamphlet 'Is-Sajd', as well as through personal consultation.

A course../..

A course in the 'Use of the Marine's Compass and Chart work' was held in the lecture room of the Fisheries building and twenty six certificates were awarded to the participants on completion of the course.

Through the courtesy of the Israeli Embassy consignments of tilapia and carp were donated to the Department. After acclimatization in aquaria in the wet room of the Fisheries building the fish were introduced in fresh water ponds at San Anton, Sa Maison, Upper Barracca and a large disused quarry at Kirkop.

During the year a 24 Volt 1500 Watt diesel generator was purchased for investigations on the introduction of underwater electric fishing. Experiments provided sufficient positive indications to justify demonstrations to fishermen during the next 'lampara' season.

Under the Italo-Maltese agreement, the Italian Government made available the services of Dr.Gracco de Nardo, a sea-food and tuna expert, who arrived in August 1968. The former Fleet Berthing Centre at Ricasoli on the east side of the Valletta Grand Harbour was acquired and a consignment of live mussels was acquired from Lago del Faro in Ganzirri. These mussels are being reared in plastic trays and the indications are that the experiment will prove successful, not only in regard to mussels, but also to other bivalves of economic importance.

F. Foreign Contacts

The Vocational Training Officer attended a 10 day Course on Marine Biology and Research in Tunisia held by the Salammbo Institut National Scientifique et Technique in collaboration with F.A.O., U.N.E.S.C.O. and M.A.M.B.O.

Mr Samuel Tal, the Israeli Director of Inland Fisheries was the guest of the Division from June 13th to June 21st, during which period he made a survey and submitted a report.

At the request of the Malta Government Mr Michael Mistakidis, a Shrimp Biologist was sent over

by../..

by the Food and Agriculture Organisation to investigate the possibilities of introducing shellfish culture. He spent 14 days making a survey of the likely bays and creeks and submitted a report to Government on his return to F.A.O. Headquarters in Rome.

During the lampuki season the Division collaborated with the Mediterranean Association of Marine Biology and Oceanography in a lampuki tagging programme, and the experience acquired has made it possible to select the best working methods for the continuation of the project. A number of distinguished scientists from different countries under the direction of Professors H.Micallef and Dr.Dohrn took part in the experiments.

G. Construction Works

In the course of the year under report a mooring quay was constructed at Xlendi in Gozo and a landing platform was also constructed at Marsaskala. Continuation works were proceeded with at Bognor Beach where the break-water, started in the previous year, was extended further to a considerable length and work was initiated on a protective arm at Rdum Inxawn, on the other side of Veċċa at St.Paul's Bay. The widening and strengthening of the seawall at St.George's Bay, Birzebbugia was also taken in hand. The extension of mooring facilities at Wied iz-Zurrieq was completed and reconstruction works rendered necessary at the same creek by the devastating storm of December 1967 were in their final phase.

Two electrically powered winches were acquired after a call for tenders and one of them was installed in a winch room erected for the purpose at Marsaxlokk and preliminary arrangements were made for installation of the other winch at Mgarr Harbour, Gozo.

Other minor and some maintenance works were carried out in creeks and anchorages where necessary in both Malta and Gozo.

General../..

General

Mr David A.Lintern, B.Sc.(Econ.) formerly of the White Fish Authority, was engaged for a period of two years to advise the Government on ways and means to expand the local fishing industry with the principal aim of increasing landings. Mr Lintern arrived on the 16th August and by the end of the year had completed a survey of the local industry, before proceeding with the other phases of his assignment.

The Motor Vessel 'Hannibal', besides being used for the usual patrol fishery protection services and kannizzati work, was utilized by the F.A.O. expert, Mr Mistakidis for his surveys, and by the Mediterranean Association for Research in Biology and Oceanography in connection with tagging experiments and plankton counting by two Algerian specialists who also took part in the course carried out by M.A.M.B.O. in conjunction with the Royal University of Malta.

The other administrative, technical and extension services of the Division were extended to the industry as efficiently as possible and cooperation with the services for compensating fishermen for damages due to the naval manoeuvres was very satisfactory.

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Table 1

Weights and Measures

1. Weights

Maltese	English	Metric.
1 Ratal	1.75 lbs.	0.79 kg.
1 Wiżna	8.75 lbs.	3.97 kg.
1 Qantar	175.00 lbs.	79.38 kg.
1280 Rtal	2240.00 lbs.	1016.00 kg.

2. Measures of Capacity

1 mondello	0.66 gallons	3.03 litres
1 Garra	2.38 gallons	10.80 litres
1 Tomna	4.00 gallons	18.18 litres
1 Barile	9.50 gallons	43.19 litres
1 Salma	64.00 gallons	290.88 litres

3. Measures of Length

1 Pulzier	0.86 inches	21.83 mm.
1 Xiber (12 pulzieri)	10.31 inches	26.19 cm.
1 Qasba (8 t'xbar)	2.29 yards	2.10 m.

4. Measures of Area

1 Qasba kwadra	5.25 sq.yards	4.39 sq.metres
1 Kejla	22.41 sq.yards	18.735 sq.metres
1 Siegh (10 kejliet)	224.10 sq.yards	187.35 sq.metres
1 Tomna (6 Sieghan)	0.278 acres	0.11 hectares
1 Wejba (4 Tmien)	1.11 acres	0.45 hectares
1 Modd (4 Wejbiet)	4.44 acres	1.80 hectares

5. Measures of Volume

1 Xiber Kubu	0.63 cu.ft.	17.97 dm^3
1 Qasba Kuba	12.04 cu.yds.	9.20 dm^3

Note: An acre is equivalent to 3.6 tmien
A tomna is a square with sides 110 ft.long
A hectare is equivalent to (i) 9.1 tmien
(ii) 2.471 acres

Table 2

1 9 6 8

i) Farm Population - (1960 - 1967)

	1960/61	1962/63	1963/64	1964/65	1965/66	1966/67
Wholetime farmers	7,330	6,858	6,737	6,476	6,283	6,232
Part-time farmers	8,815	8,751	9,124	8,281	8,615	8,452
Farm population not engaged in farming	20,175	21,001	20,411	20,523	21,032	21,332
Children	17,191	15,779	14,741	13,549	13,282	12,433
	53,511	52,389	51,013	48,829	49,212	48,449

ii) Area

Malta	94.870 square miles or 60,717 acres	
Gozo	25.899 square miles or 16,575 acres	
Comino	1.075 square miles or 688 acres	
Total	121.844 square miles or 77,980 acres	

iii) Land Distribution

Table 2 (contd.)

MALTA	1960 Tmien	1961 Tmien	1963 Tmien	1964 Tmien	1965 Tmien	1966 Tmien	1967 Tmien
Agricultural Land							
Dry	107,980	105,543	100,687	99,613	96,750	96,831	[illegible]
Irrigated ...	5,528	5,470	5,585	5,287	5,048	5,624	[illegible]
Waste	19,511	18,860	18,064	17,712	16,627	15,988	[illegible]
Total	133,019	129,873	124,336	122,612	118,425	118,443	[illegible]
GOZO							
Agricultural Land							
Dry	29,121	27,866	27,642	26,626	25,781	25,507	25,400
Irrigated ...	741	689	624	560	533	545	571
Waste... ...	1,845	1,757	1,953	2,037	1,821	2,079	1,730
Total	31,707	30,312	30,219	29,223	28,135	28,131	27,701
TOTAL Malta & Gozo	164,726	160,185	154,555	151,835	146,560	146,574	[illegible]

Table 3

GRANTS AND LOANS
Financial Assistance to Farmers
1968

PURPOSE	Cases	Loans	Grants
GENERAL SCHEME			
Rotary Cultivators	94	20,368	13,558
Glasshouses	20	18,141	12,090
Heaters for glasshouses	4	1,115	743
Overhead Irrigation Equipment	3	683	457
Poultry Units	1	600	400
IMPROVEMENTS TO FARMHOUSES			
Repairs to Farmhouses	4	430	286
Construction/Repairs to water reservoirs	10	2,934	1,956
ASSISTANCE TO CO-OPERATIVES			
Farmers Wine Co-operative Society Ltd.	1	7,329	4,886
TOTALS	137	51,605	34,376

Table 4

Seed Potatoes imported in 1968

Date	Arran Banner Eire	Arran Banner N.Ireland	Alpha	Craigs Royal	Pentland Dell	Sample Varieties
26.11.68	-	550 tons	-	40 tons	60 tons	2 tons 12 cwts.
22.11.68	-	-	-	-	-	4 crates
6.12.68	-	-	1000 tons	-	-	25 Packages
13.12.68	-	-	590 tons	-	-	-
14.12.68	-	500 tons	-	-	50 tons	-
15.12.68	800 tons	-	-	50 tons	-	-
23.12.68	-	-	109 tons 18 cwts	-	-	-
	800 tons	1050 tons	1699 tons 18 cwts	90 tons	110 tons	3 tons 2 cwts

Recapitulation

Arran Banner (Eire)	-	800 tons	
Arran Banner (N.Ireland)	-	1050 tons	
Alpha	-	1699 tons 18 cwts	
Craigs Royal	-	90 tons	
Pentland Dell	-	110 tons	
Sample Varieties	-	3 tons 12 cwts	3753 tons

Table 5

Export of Spring Potatoes 1968

Date	Destination	Quantity		
		Tons	Cwts.	Qrs.
8.4.68	United Kingdom	17	15	-
19.4.68	United Kingdom	136	5	-
21.4.68	United Kingdom	500	-	-
23.4.68	Rotterdam	47	10	-
23.4.68	Hull	150	-	-
23.4.68	United Kingdom	575	-	-
24.4.68	London	150	-	-
24.4.68	Liverpool	687	10	-
25.4.68	Leith	400	-	-
25.4.68	Holland	-	-	2
26.4.68	United Kingdom	703	9	2
27.4.68	United Kingdom	470	-	-
29.4.68	Rotterdam	300	-	-
1.5.68	Leith	500	-	-
2.5.68	Italy	100	-	-
2.5.68	Rotterdam	365	-	-
3.5.68	United Kingdom	500	-	-
4.5.68	Italy	35	-	-
5.5.68	United Kingdom	550	-	-
7.5.68	Rotterdam	525	-	-
8.5.68	Glasgow	355	5	-
9.5.68	Rotterdam	224	12	2
11.5.68	London	900	-	-
11.5.68	United Kingdom	483	19	-
11.5.68	United Kingdom	785	-	-
14.5.68	Rotterdam	395	12	2
15.5.68	Italy	-	-	2
15.5.68	Liverpool	511	17	-
15.5.68	United Kingdom	618	10	-
17.5.68	Rotterdam	550	-	-
17.5.68	Rotterdam	397	5	-
21.5.68	Italy	100	-	-
21.5.68	United Kingdom	280	19	-
22.5.68	Italy	273	5	-
27.5.68	Rotterdam	200	-	-
30.5.68	Rotterdam	655	-	-
	Total	13,443	15	2

United Kingdom	-	9,275 tons 9 cwts. 2 qrs.
Continent	-	4,168 tons 6 cwts. 0 qrs.
		13,443 tons 15 cwts. 2 qrs.

Table 6

Export of Dry Onions 1968

Date	Destination	Quantity		
		Tons	Cwts.	Qrs.
20.6.68	Dover	15	17	2
26.6.68	United Kingdom	1052	10	-
26.6.68	United Kingdom	850	-	-
27.6.68	United Kingdom	522	11	2
28.6.68	Holland	150	-	-
28.6.68	London	714	18	2
3.7.68	London	350	-	-
3.7.68	United Kingdom	625	-	-
7.7.68	Liverpool	668	16	2
9.7.68	Liverpool	332	19	2
10.7.68	London	65	10	-
10.7.68	London	420	9	2
12.10.68	United Kingdom	5	-	-
21.11.68	Tripoli	9	-	-
21.11.68	Tripoli	26	8	-
		5,809	1	-

United Kingdom	-	5,623. 13. 0.
Holland	-	150. 0. 0.
Tripoli	-	35. 8. 0.
		5,809. 1. 0.

TABLE No. 7

SALES THROUGH PITKALI MARKETS - VEGETABLES

VEGETABLES	1966 WEIGHT Rtal	1966 VALUE £	1967 WEIGHT Rtal	1967 VALUE £	1968 WEIGHT Rtal	1968 VALUE £
Artichokes (G)	833,746	6,020	909,977	9,336	795,867	13,531
Artichokes (j)	90,622	2,376	90,008	2,207	75,055	2,609
Beans Broad	527,025	16,291	606,648	16,829	622,045	11,135
Beans French	80,196	4,940	83,154	4,888	79,412	5,028
Beetroot (Unt.)	147,948	1,510	103,411	1,769	176,715	2,195
Bellpepper	220,509	5,131	197,591	7,355	211,645	7,671
Broccoli	998	29	2,752	93	5,451	144
Brussels Sprouts	6,437	865	6,482	1,193	7,617	4,135
Cabbages	2,117,631	23,374	1,878,737	32,632	2,394,783	29,833
Carrots	13,597	106	14,243	146	12,148	227
Carrots (Unt.)	1,145,840	14,065	1,119,791	14,957	1,169,700	16,567
Caulflowers (T)	2,462,023	15,936	1,564,696	24,516	1,804,769	11,836
Cauliflowers (Unt)	2,013,354	26,835	2,001,854	28,241	3,799,449	35,651
Celery	389,981	5,134	425,761	6,174	404,825	6,139
Centenary	22,602	42	2,690	45	530	15
Chickpeas	24,630	269	52,523	608	28,057	416
Cucumber	102,858	4,815	128,972	5,531	127,993	6,148
Eggplant	187,331	3,406	228,289	4,569	230,672	5,494
Endive	163,688	1,330	133,752	1,379	147,978	1,724
Garlic Dry	25,473	1,003	27,094	2,761	72,783	2,485
Garlic Green	172,780	2,818	180,961	6,101	176,970	7,200
Gourds	153,807	2,193	214,284	2,962	165,759	3,235
Fennel	953	11	205	3	55	2
Kohlrabi	1,256,956	14,814	1,375,286	18,044	1,250,277	17,538
Leeks	11,986	133	8,786	119	12,683	206
Lettuce	828,523	16,472	914,762	50,825	933,625	22,399
Marrows Long	340,449	5,228	398,094	4,313	274,938	7,821
Marrows Veg.	1,241,294	41,653	1,254,324	44,345	1,261,246	35,154
Mint Herbs	553	15	1,116	26	784	15
Onions Dry	1,014,194	23,075	783,691	24,359	969,481	12,907
Onions Green	643,496	6,142	345,331	5,099	536,526	5,612
Onions Pickles	2,218	50	-	-	5,060	77
Parsley	55,928	1,533	61,985	1,852	78,170	2,099
Potatoes Spring	2,425,607	81,002	4,485,187	88,127	4,558,057	94,432
Potatoes Winter	2,684,532	52,720	2,394,199	62,201	2,280,426	65,995
Pumpkins	1,109,038	17,045	833,379	21,731	991,155	18,795
Peas	188,072	10,206	188,732	9,300	225,826	9,049
Radishes	5,292	191	7,012	237	5,525	130
Seakle Beet	1,052	13	422	5	305	6
Spinach	252,654	3,910	274,301	6,080	248,294	6,336
Tomatoes Eng;	582,489	40,439	597,908	48,896	619,768	21,500
Tomatoes R.	960,887	17,927	1,197,790	24,994	995,730	21,948
Tomatoes Oval	97,113	19,522	1,074,855	20,605	1,082,330	22,457
Turnips	996	12	89	1	42	1
		£490,601		£605,454		£537,897

TABLE No. 8

SALES THROUGH PITKALI MARKETS - FRUITS

FRUITS	1966		1967		1968	
	WEIGHT	VALUE	WEIGHT	VALUE	WEIGHT	VALUE
	Rtal		Rtal		Rtal	
Apples	129,838	7,361	273,418	12,097	192,062	7,796
Apricots	19,909	1,658	1,321	123	4,209	415
Bambinella	6,487	674	28,652	3,102	40,789	832
Banana (Heads)	1,004	13	1,615	26	559	9
Blackberries	2,201	193	5,207	323	5,032	309
Cherries	-	-	209	64	217	61
Figs Dry	3,816	123	3,536	119	10,698	260
Figs Early	200,375	7,223	191,204	6,239	259,686	5,728
Figs Late	84,439	2,177	58,197	1,964	84,492	1,921
Grapes	464,543	17,467	572,396	22,210	467,619	22,438
Grapefruit	47	7	78	12	64	8
Lemon (Dozens)	106,020	7,194	90,783	6,862	97,297	9,859
Lemons Sweet	69	4	189	10	370	16
Medlars	18,995	666	23,883	892	18,337	591
Melons Sugar	477,133	14,388	522,209	15,802	679,044	12,592
Melons Water	239,828	6,199	294,979	8,933	399,293	8,669
Melons Winter	209,372	4,556	296,053	7,137	369,743	7,008
Mulberries	2,447	73	1,593	48	810	26
Nectarines	155	13	1,220	76	2,319	175
Olives	41	2	3,138	143	505	22
Oranges (Dozens)	55,169	6,380	48,170	5,580	52,308	6,448
Oranges Sweet (Dozens)	12,346	1,698	11,616	1,645	11,471	1,786
Peaches	77,274	8,119	828,003	37,553	706,841	32,809
Pears	42,070	3,037	32,678	2,079	67,520	3,249
Pears Prickly	56,947	406	33,390	241	25,980	255
Plums	9,819	1,217	72,631	5,744	38,736	3,389
Plums Cherry	176,377	12,508	476,748	11,642	209,770	11,402
Pomegranates	53,131	1,392	80,406	1,675	65,986	1,621
Prunes	-	-	434	26	227	11
Strawberries Eng.	70,423	12,806	86,241	14,774	47,857	9,744
Strawberries Local	485	438	1,041	553	298	208
Tangerines (Dozens)	11,872	1,361	9,609	1,159	11,246	1,279
		£119,353		£168,853		£150,936

Table 9

Yearly Enumeration of Livestock 1957 - 1967

YEAR	CAPRINES		OVINES		BOVINES		SWINE		EQUINES		POULTRY & RABBITS	
	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO	MALTA	GOZO
1957	25,611	15,726	9,204	5,614	7,066	2,661	10,493	3,805	4,955	1,825	244,473	144,042
1958	23,743	13,201	9,233	5,778	7,626	2,172	12,381	3,981	4,748	1,827	252,588	157,307
1959	22,625	13,246	8,649	5,616	7,429	2,107	12,094	3,701	4,587	1,757	240,502	131,840
1960	21,010	13,378	7,909	5,107	7,206	2,172	11,217	2,829	4,422	1,698	264,515	132,513
1961	18,587	12,425	7,190	4,413	6,282	1,809	12,507	3,835	4,290	1,603	264,320	148,983
1963	17,225	13,083	6,424	4,538	6,566	2,013	12,414	3,343	3,978	1,619	280,353	144,283
1964	16,438	12,741	6,518	4,709	6,001	1,986	10,428	2,990	3,853	1,500	322,528	119,769
1965	14,818	11,164	6,419	4,066	5,384	1,874	12,217	2,949	3,582	1,367	355,136	140,383
1966	13,894	10,909	6,205	4,486	6,340	1,797	19,787	3,554	3,464	1,345	305,188	100,314
1967	12,978	10,452	5,694	4,238	5,425	2,069	20,277	3,163	3,375	1,330	329,785	89,369

Table 10

Diseases and Other Causes of Unsoundness of Meat
During 1968

Disease	Cattle	Pigs	Sheep	Goats	Lambs	Kids	Equines	TOTAL
Severed Flesh	-	-	-	-	-	-	1	1
Putrefaction	7	7	-	-	-	-	-	14
Septicaema	8	5	3	8	-	-	-	24
Totals	15	12	3	8	-	-	1	39

Vaccination of Pigs and Inoculations of Poultry Durin, 1968

Table 11

Month	POULTRY		SWINE	
	Fowl Pest	Fowl Pox	Swine Erysipelas	Swine Fever
M A L T A				
January	-	6792	373	1568
February	1243	1580	285	1353
March	1910	1633	296	1571
April	1050	3096	488	1261
May	1590	5570	286	1779
June	2135	3110	489	1850
July	1950	4701	577	1762
August	-	5884	983	1776
September	1650	3941	652	1632
October	-	-	661	1600
November	-	-	440	1961
December	-	1050	637	1779
TOTALS	11,528	37,357	6,167	19,892
G O Z O				
January	-	-	194	36
February	-	5300	206	64
March	11800	3950	223	24
April	2300	7400	47	-
May	800	4200	-	-
June	3400	4300	-	-
July	5600	4500	35	30
August	-	-	6	46
September	-	-	-	-
October	-	-	-	-
November	1400	1100	87	32
December	-	1000	25	193
TOTALS	25,300	31,750	828	445

Table 12

Stocks of Imported Store Cattle During 1968

Month	Importation		Total Imported	Slaughtered		Total Slaughtered	Balance	
	Bulls	Bullocks		Malta	Gozo		-	+
	Stock on hand on 1st January, 1968							2,641
January	-	633	633	579	15	594	-	39
February	-	-	-	522	20	542	542	-
March	-	804	804	666	19	685	-	119
April	-	418	418	581	14	595	177	-
May	-	614	614	635	22	657	43	-
June	-	277	277	580	23	603	326	-
July	-	791	791	628	28	656	-	135
August	-	527	527	699	26	725	198	-
September	-	1,002	1,002	609	19	628	-	374
October	-	190	190	621	14	635	445	-
November	-	995	995	578	14	592	-	403
December	-	263	263	657	20	677	414	-
Totals	-	6,514	6,514	7,355	234	7,589	2,145	3,711

Stocks on hand 1st January,1968 - 2641
Imported during 1968 - 6514 - 9155
Slaughtered during1968 - 7589
Stock on hand 1st January, 1969 - 1566

TABLE 13

SLAUGHTERINGS DURING THE PERIOD 1st JANUARY to 31st DECEMBER, 1968

MALTA

MONTH	CATTLE	PIGS	SHEEP	LAMBS	GOATS	KIDS	EQUINES
JANUARY	823	2,908	377	296	555	138	58
FEBRUARY	735	2,728	415	345	473	168	51
MARCH	864	3,110	398	241	589	300	64
APRIL	785	2,935	332	121	460	444	61
MAY	852	3,189	342	74	445	320	61
JUNE	797	2,762	299	44	385	173	58
JULY	880	2,585	264	37	341	66	47
AUGUST	891	2,790	248	48	394	58	55
SEPTEMBER	852	2,710	300	400	327	30	49
OCTOBER	910	3,204	309	1,415	440	8	55
NOVEMBER	826	2,951	346	1,313	342	47	53
DECEMBER	871	3,664	374	561	229	46	67
TOTAL	10,086	35,536	4,004	4,895	4,980	1,798	679
TOTAL WEIGHT	3,198,939	3,083,795	149,892	44,817	128,606	8,238	151,132
AVERAGE WEIGHT	317	87	37	9	26	5	222

GOZO

JANUARY	82	284	18	82	10	22	1
FEBRUARY	64	252	11	86	12	30	-
MARCH	76	276	7	33	19	95	-
APRIL	51	208	3	10	7	112	1
MAY	67	247	6	-	5	42	-
JUNE	56	183	3	-	9	4	-
JULY	80	162	4	-	4	5	-
AUGUST	62	208	7	3	2	1	2
SEPTEMBER	47	177	14	17	3	-	3
OCTOBER	58	178	18	145	12	7	-
NOVEMBER	60	211	15	194	2	-	3
DECEMBER	59	239	16	58	1	12	1
TOTAL	762	2,625	122	628	86	330	11
TOTAL WEIGHT	259,383	246,347	4,047	6,071	2,236	1,832	2,687
AVERAGE WEIGHT	340	94	33	9	26	5	244

TABLE 14

MALTA — RESPECTIVE WEIGHTS IN ROTOLI OF ANIMALS SLAUGHTERED DURING 1968

MONTH	CATTLE	PIGS	SHEEP	LAMBS	GOATS	KIDS	EQUINES
January	265,584	253,284	13,885	2,789	14,464	639	13,237
February	229,086	236,037	16,132	3,214	12,386	808	11,460
March	287,757	270,604	15,735	2,284	15,780	1,314	15,100
April	246,579	256,410	13,283	1,176	12,289	1,953	13,003
May	271,749	282,550	13,809	714	10,320	1,453	13,519
June	253,644	237,122	11,312	415	10,352	786	12,077
July	275,651	218,155	9,520	346	8,532	273	10,281
August	279,856	229,632	6,862	461	10,033	384	11,974
September	272,272	236,388	10,293	3,651	8,408	142	11,383
October	273,463	284,132	11,132	12,403	11,131	36	12,126
November	264,459	257,411	13,097	11,223	9,035	234	12,149
December	278,839	322,370	14,641	5,141	5,876	216	14,823
TOTAL	3,198,939	3,083,795	149,892	44,817	128,606	8,238	151,132

GOZO

January	28,385	27,678	597	820	278	130	250
February	21,553	23,858	342	863	306	180	-
March	26,534	26,248	244	328	486	528	-
April	19,246	19,982	96	95	170	602	286
May	23,554	23,930	180	-	130	228	-
June	18,578	16,928	98	-	258	20	-
July	25,826	13,089	138	-	102	26	-
August	20,235	19,562	246	26	44	6	550
September	16,004	16,550	466	162	78	-	714
October	19,908	16,534	572	1,396	314	42	-
November	19,822	19,646	560	1,843	46	-	651
December	19,738	22,342	508	538	24	70	236
	259,383	246,347	4,047	6,071	2,236	1,032	2,687

Table 15

i) Co-operative Societies on Register as on 31st December 1968

Primary	
Agricultural Produce	15 (a)
Agricultural Equipment	4 (d)
Tailors (Supply)	1 (b)
Milk Producers	1
Consumers	4 (c)
Milk & Agriculture Producers	1
Wine Producers	1
Egg Producers	2(e)
Agricultural Trading	1
Fisheries Co-operative	1
Central	
Agricultural	1
Total Number of Societies	32
Estimated Membership	2,558

(a) 3 in course of liquidation
(b) 1 in course of liquidation
(c) 2 in course of liquidation
(d) 1 in course of liquidation
(e) 2 in course of liquidation

ii) Principal Items of Assets and Liabilities of Co-operative Societies, 1968

Liabilities:		
Shares	70,147	
Reserves and Provisions	27,407	
Creditors	85,974	
Disposable Balances	10,661	
Loans	55,988	250,177
Assets:		
Immovables	159,163	
Movable and Stock	30,748	
Debtors	19,912	
Investments	6,758	
Cash in hand and at Bank	33,522	
Deficiency in Capital	74	250,177

Table 16

Landings of Fresh Fish by Local Boats

1959 - 1968

Year	Weight in Tons	Wholesale value in £
1959	1,040	200,729
1960	1,217	226,643
1961	1,350	236,601
1962	1,317	248,770
1963	1,491	283,206
1964	1,348	324,094
1965	1,279	334,351
1966	1,276	319,454
1967	1,163	346,009
1968	1,180	340,950

TABLE 17

FISH CAUGHT DURING 1968 = (IN RTAL)

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
ACCOLA	-	-	-	729	200	-	774	-	-	-	-	-	1,703
ARZNELL/MUNQARA	13,314	7,591	13,477	14,293	4,694	1,362	-	-	1,440	-	7,239	1,644	65,054
BOLL/HAM/RAI	625	1,823	2,261	2,347	3,136	2,298	1,267	302	-	617	1,958	856	17,490
CERNA	-	-	-	439	1,094	882	2,346	1,472	320	434	342	448	7,777
DENTICI	-	-	-	-	259	651	635	474	40.	791	470	548	4,277
DOTT/HANZIR	-	338	492	1,818	1,591	4,231	8,407	1,229	-	700	382	744	19,932
FANFRI	-	-	-	-	-	-	-	-	76,376	28,087	2,791	403	107,657
GALLINA	1,450	1,882	686	1,427	4,788	1,918	1,716	234	-	-	-	430	14,531
GAMBLI	1,005	2,068	1,776	5,388	7,362	320	2,835	1,727	4,570	1,860	956	414	30,281
HUTA KAHLA	451	939	3,683	991	485	1,014	964	443	-	-	-	-	8,970
KAHLI	426	494	234	749	1,078	1,026	1,879	354	-	579	567	975	8,362
KAVALLI	-	-	-	-	-	705	-	26,032	13,165	623	327	-	40,852
KLAMARI	1,278	940	-	-	309	2,461	420	-	-	-	-	516	5,924
LACCI	300	2,719	904	-	1,076	2,587	17,091	1,672	2,056	=	-	-	28,405
LAMPUKI	-	-	-	-	-	-	-	17,607	153,997	306,027	21,794	852	500,277
MAKKU	-	-	-	-	924	-	1,142	2,819	-	-	-	-	4,885
MAZZOLA	963	1,264	2,390	2,625	3,720	10,228	9,055	400	-	345	3,357	1,779	36,126
MORINA	1,057	414	1,769	2,339	838	2,172	3,648	-	-	-	-	-	12,237
MULETT	696	460	-	-	452	2,088	555	1,313	-	304	772	489	7,129
PAGELL	1,041	1,410	990	721	924	1,128	675	-	-	-	711	933	8,533
QAGRI	297	-	-	-	-	313	1,878	-	-	-	-	-	2,488
SIXXISPAD	-	-	210	-	1,082	553	27,306	8,779	-	-	-	-	37,930
SIXXIPLAMTU	-	511	542	1,031	-	336	445	-	-	-	-	-	2,865
SLAMTU	218	-	-	-	-	-	-	-	-	-	-	-	218
SARNIT	2,727	3,223	3,024	4,279	3,470	5,137	1,240	1,379	806	1,677	2,921	2,199	32,082
SARGU	467	361	-	493	280	420	-	-	288	417	842	712	4,280
TAWRELL	5,270	2,968	3,989	924	2,556	12,271	16,093	6,876	6,248	2,385	1,687	22, 737	84,004
TIRRAN	1,027	799	736	678	1,118	-	-	-	-	-	-	-	4,358
TOIN	622	1,788	750	308	1,075	-	916	-	-	-	749	418	6,626
TONNAGGI	-	-	-	-	-	-	-	-	2,160	4,054	-	-	6,214
TRILL	1,696	2,881	4,185	1,271	1,942	1,059	1,123	-	-	337	1,177	852	16,523
UMBRELL	2,902	2,496	38,546	22,895	9,046	-	-	-	-	564	-	1,405	77,854
UPI	26,629	36,516	9,906	13,986	17,420	38,158	36,141	19,927	21,068	20,679	10,649	3,431	25,420
VILEP	994	815	1,511	1,063	2,805	3,664	1,440	1,581	1,032	-	1,853	1,317	18,075
VKATLU	-	348	-	-	224	-	-	336	-	-	-	252	1,160
ZAGHRUN	573	1,211	1,908	1,698	2,790	1,695	3,510	-	-	-	-	-	13,385
ZIT IEHOR	1,159	1,144	2,121	1,516	1,859	2,393	1,615	1,843	1,223	1,388	3,046	2,743	22,050
	67,187	77,403	96,090	84,008	78,596	101,070	145, 166	96,809	285,149	371,868	64,590	47,098	1,515,034

TABLE 18

AVAILABILITY OF FRESH FISH

DECEMBER 1968

YEAR	QUANTITY RTAL	WHOLESALE VALUE £	RETAIL VALUE £	AVERAGE RET.PRICE PER RATAL	QUANTITY RTAL	WHOLESALE VALUE £	RETAIL VALUE £	AVERAGE RET.PRICE PER RATAL	TOTAL QUANTITY
1967									
JANUARY	89,198	18,061	23,282	5/3	6,164	798	1,260	4/1	95,362
FEBRUARY	73,506	15,205	19,997	5/5	471	130	165	7/-	73,977
MARCH	88,975	17,363	22,975	5/2	642	205	257	8/-	89,617
APRIL	83,316	16,182	21,576	5/2	3,775	600	975	5/2	87,091
MAY	92,533	15,550	20,868	4/6	11,325	2,944	3,775	6/8	103,858
JUNE	110,593	20,929	28,666	5/2	1,662	684	809	9/9	112,255
JULY	168,589	30,558	43,246	5/2	940	314	400	8/6	169,529
AUGUST	127,487	23,709	32,631	5/1	1,310	303	426	6/5	128,797
SEPTEMBER	423,308	89,203	108,620	5/2	2,837	916	1,135	8/-	426,145
OCTOBER	367,071	53,044	77,858	4/3	1,360	337	439	6/5	368,431
MOVEMBER	199,687	36,317	45,562	4/7	-	-	-	-	199,687
DECEMBER	48,467	9,888	12,878	5/4	-	-	-	-	48,467
	1,872,730	346,009	458,159	-	30,486	7,231	9,641	-	1,903,216
1968									
JANUARY	67,187	14,777	18,642	5/6	-	-	-	-	67,187
FEBRUARY	77,403	17,528	22,308	5/9	1,770	457	620	7/-	79,173
MARCH	96,090	20,089	24,942	5/2	634	168	231	7/4	96,724
APRIL	84,008	19,209	27,708	6/7	-	-	-	-	84,008
MAY	76,737	19,494	24,587	6/5	-	-	-	-	76,737
JUNE	101,073	20,022	26,605	5/3	3,176	1,439	1,677	10/7	104,246
JULY	145,166	34,252	49,505	6/10	372	118	155	8/4	145,538
AUGUST	96,809	26,834	32,956	6/10	4,228	1,615	1,931	9/1	101,037
SEPTEMBER	285,144	76,216	93,319	6/6	-	-	-	-	285,144
OCTOBER	371,860	65,962	88,593	4/9	640	190	229	7/2	372,500
NOVEMBER	64,590	16,177	20,145	6/3	3,992	1,294	1,697	8/6	68,582
DECEMBER	47,098	10,390	13,230	5/7	500	205	250	10/-	47,598
TOTAL	1,513,165	340,950	442,540	-	15,312	5,486	6,790	-	1,528,474

TABLE 19

DETAILED STATEMENT SHOWING LOANS & GRANTS AWARDED TO FISHERMEN DURING 1968

1. CONSTRUCTION OF BOATS OVER 30 FEET		2. PURCHASE OF EQUIPMENT, REPAIRS AND OVERHAULS		3. REPLACEMENT OF ENGINES	4. MODIFICATION TO CRAFT SMALLER VESSELS AND SECOND-HAND BOATS	
LOANS 50%	GRANTS 30%	LOANS 50%	GRANTS 20%	GRANTS 40%	LOANS 50%	GRANTS 30%
£2,000	£1,200	£555	£222	£245	£245	£147
3,750	2,250	158	63	240	483	289
1,125	675	430	172	324	328	196
1,875	1,125			200	1412	564
					500	300
					855	513
					519	300
					365	218
£8,750	£5,250	£1,143	£457	£1,069	£4,700	£2,527

Table 20

Fishing Equipment purchased for re-sale to Fishermen

Corkwood	£796. 5. 2.
Floats	£125. 0. 0.
Fishing Lamps....	£280.10. 0.
Fishing Hemp Lines	£405. 0. 0.
Nylon Nets	£2,955.10. 2.
Polyethylene Twine	£5,365. 7. 8.
	£9,927.13. 0.

TABLE 21

AGRICULTURE

(i) ORDINARY EXPENDITURE 1963/69

	"A" PERSONAL EMOLUMENTS						B. OTHER CHARGES					
	ACTUAL 1963/64	ACTUAL 1964/65	ACTUAL 1965/66	ACTUAL 1966/67	ACTUAL 1967/68	ESTIMATE 1968/69	ACTUAL 1963/64	ACTUAL 1964/65	ACTUAL 1965/66	ACTUAL 1966/67	ACTUAL 1967/68	ESTIMATE 1968/69
Office ...	15,768	19,965	20,932	20,635	17,141	29,188	-	-	-	-	-	-
Advisory Service ...	6,019	6,816	6,814	6,797	6,016	11,360	-	1,381	1,791	1,831	1,909	2,000
Government Farm ...	5,764	5,620	5,453	4,776	5,040	6,600	37,118	36,100	38,266	37,657	37,824	39,425
Gardens, Plantations & Afforestations	29,430	31,148	31,881	30,138	32,440	37,516	27,997	27,342	29,437	32,596	33,682	37,030
Plant Pathology Viticulture and Oenology	2,586	2,554	1,871	1,573	1,249	4,052	11,797	11,752	11,459	12,645	11,276	13,375
Marketing ...	5,446	5,828	6,400	6,355	6,280	7,580	1,340	1,677	1,697	1,748	1,599	1,800
Veterinary Services ...	17,238	17,723	17,860	18,235	19,059	23,445	7,588	2,765	7,176	6,787	7,076	9,770
Fisheries ...	12,615	13,431	13,600	13,305	14,264	16,456	20,611	17,347	20,935	21,232	18,165	22,336
General Services ...	-	-	-	-	-	-	9,326	13,956	15,019	16,019	16,803	17,905
Subsidies ...	3,843	-	-	-	-	-	72,871	86,857	78,158	100,355	79,254	99,740
	98,709	103,085	104,899	101,814	101,487	136,197	188,657	204,177	203,938	230,870	207,598	243,381

TABLE 21 (continued)

ii) SPECIAL EXPENDITURE - 1963/69

ACTUAL 1963/64		
Purchase of Livestock Government Farm	£500	
ACTUAL 1964/65		
International Congress on Brucellosis	356	
Training of a Veterinary Surgeon	70	
Assistance given to M. V. Hannibal	810	
	£1,236	
ACTUAL 1965/66		
Purchase of Livestock	877	
Training of a Veterinary Surgeon	123	
Grants to Fishermen	19,290	
Electric Unit for Gozo Abattoir	49	
Repairs to Public Gardens	997	
Purchase of a duplicator	82	
Adaptation Works of Premises at it-Tokk Gozo	467	
	£21,885	
ACTUAL 1966/67		
Purchase of livestock for Government Farm	548	
Repairs to Public Gardens	4,981	
Expenses in connection with 2nd Session of the Working Party of the Water Resources and Irrigation of European Commission on Agriculture.	521	
Repairs to Elec. Installation at Civil Abattoir	5,983	
Installation of an electric Ref. Plant at Civil Abattoir, Gozo	683	
Centralization of nurseries at Tal-Kmand	144	
Purchase of Two Typewriters	63	
Provision for wire enclosure at Livestock Centre, Gozo	200	
	£13,123	
ACTUAL 1967/68		
Purchase of Livestock for Government Farm.	1,344	
Repairs to Public Gardens	4,960	
Expenses in Connection with Control of Stray Dogs	-	
Expenses in connection with Research	300	
Repairs to elec. installation in Civil Abattoir Malta	630	
Installation of an Elec. Refrig. Plant at C. Abattoir, Gozo	167	
Centralization of nurseries at Tal-Kmand	142	
Purchase of a Rotovator	-	
Purchase of a bowser	2,175	
Replacement of a Motor Scooter	-	
Purcahse of a manual control panel	-	
Construction of an animal shed at Civil Abattoir	1,706	
	£11,424	
ESTIMATES 1968/69		
Purchase of livestock for Government Farm.	1,000	
Repairs to Public Gardens	10,000	
Control of Stray Dogs	1,600	
Centralization of Nurseries	3,898	
Purchase of a Bowser.	725	
Animal Shed at Abattoir	600	ESTIMATE
Cold Room at Luqa Airport	5,000	
Replacement of an Estate Car	400	25,223
Purchase of Flaying Equipment	1,500	
Purchase of a manual control panel	290	
Purchase of a rotovator	255	2,045
		£25,268

continued

TABLE 21 continued

(iii) E. CO - OPERATIVES 1968/69

	ACTUAL 1963 -64	ACTUAL 1964 -65	ACTUAL 1965 -66	ACTUAL 1966 -67	ACTUAL 1967 -68	ESTIMATE 1968- 69
Personal Emoluments ...	6,558	2,782	2,361	2,358	2,241	3,475
Other Charges ...	2,587	7,023	6,996	6,368	7,080	7,168
Special Expenditure ...	-	-	-	-	-	-
	£9,125	£9,805	£9,357	£8,624	£9,321	£10,643
(iv) F. PITKALI MARKETS - 1968/69						
Personal Emoluments ...	18,791	19,113	20,179	20,643	20,260	26,104
Other Charges ...	3,929	3,869	3,185	3,938	3,919	4,052
Special Expenditure ** ...	-	-	-	** 2,000		
	£22,720	£22,982	£23,364	£26,581	£24,179	£30,156

** Grant to the Gozo and Agricultural Producers Co-operative Society Limited.

CAPITAL EXPENDITURE - AGRICULTURE AND FISHERIES

DETIALS OF EXPENDITURE	ACTUAL EXPENDITURE 1959/64	PLAN ESTIMATES 1964/69	ACTUAL EXPENDITURE 1964/65	ACTUAL EXPENDITURE 1965/66	ACTUAL EXPENDITURE 1966/67	ACTUAL EXPENDITURE 1967/68	ESTIMATES 1968 - 69
1. Cattle Disease Eradication Scheme	137,984	54,385	23,450	14,388	10,379	7,631	3,000
2. Animal Vaccination Scheme	19,944	1,056	-	941	-	-	-
3. Incentive Grants to Farmers	25,540	70,090	8,985	2,857	6,747	8,697	12,000
4. Expenses in connection with Experts	47,600	39,608	2,915	-	1,077	3,403	3,400
5. Training of Personnel Abroad	26,749	32,705	1,986	1,884	2,889	2,755	3,000
6. Adopted Farms	3,055	2,945	20	677	1,338	217	-
7. Grants to Farmers	51,399	100,000	13,707	30,038	38,055	25,965	24,000
8. Public Gardens, Plantations and Afforestations	98,850	68,243	10,000	14,385	10,427	13,745	12,000
9. Improvements to Public Gardens	1,309	8,691	8,515	157	20	-	-
10. Modernisation of Civil Abattoir, Malta (a)	17,696	604	118	403	-	-	-
11. Cattle Quarantine Station	-	42,200	847	15,212	13,862	1,998	5,000
12. Equipping and Staffing Research Laboratory	-	53,317	827	737	2,282	6,724	10,000
13. General Development of Horticulture	-	211,332	3,960	30,094	49,761	55,842	45,000
14. Fruit Planting Incentive Grants	-	12,659	596	1,248	1,409	2,777	2,000
15. Development of Viticulture	-	17,824	1,223	4,608	3,206	5,117	4,000
16. Mobile Steam Sterlizing Units	-	11,606	-	-	-	1,012	1,100
17. Agricultural Produce Inspection Shed	-	24,792	-	-	10,731	8,620	-
18. Assistance to Co-operatives (Grants)	-	30,000	-	-	1,575	7,513	16,500
19. Improvements to Farmhouses (Grants)	-	23,000	-	3,436	2,811	7,996	8,000
20. Equipping of Agricultural Laboratories	-	12,132	879	1,335	4,204	4,120	2,000
21. Eradication of Swine Diseases	-	15,000	-	1,447	1,829	2,494	2,000
22. Purchase and Adaptation of R.N. Abattoir	-	2,000	-	40	969	-	-
23. Loans to Farmers	165,000	150,000	20,049	44,397	55,218	39,377	36,000
24. Assistance to Co-operative (Loans)		45,000	-	-	2,013	9,005	25,000
25. Improvements to Farmhouses (Loans)	-	34,5	-	5,035	4,196	11,907	12,000
26. Equipping and Staffing Diagnostic Laboratory		40,177	-	2,964	6,042	6,859	6,000
27. Central Markets	-	136,833	-	-	-	-	50,000
28. Modernization of Civil Abattoir Malta	-	-	-	-	-	-	1,000
Development of Pig Breeding Industry		19,500	-	174	6,518	7,072	7,000
	£595,132	£1,260,199	£98,077	£176,457	£237,659	£234,846	£290,000

FISHERIES continued overleaf

TABLE 21 (continued)

CAPITAL EXPENDITURE (contd.)

DETAILS OF EXPENDITURE (FISHERIES)	ACTUAL EXPENDITURE 1959/64	PLAN ESTIMATE 1964/69	ACTUAL EXPENDITURE 1964/65	ACTUAL EXPENDITURE 1965/66	ACTUAL EXPENDITURE 1966/67	ACTUAL EXPENDITURE 1967/68	ESTIMATES 1968 / 69
28. Grants to Fishermen	21,953	34,000	5,658	8,361	7,039	16,528	8,000
29. Improvements at Marsaxlokk	-	37,980	7,627	16,034	13,291	-	-
30. Provision of 2 winches at Marsaxlokk and Wied iz-Zurrieq.	-	2,907	-	749		-	8,000
31. Construction of Moles		79,000	4,977	5,620	-	25,989	25,000
32. Extension of Moles at Wied iz-Zurrieq	-	11,605	326	1,395	1,695	1,330	2,000
33. Fishing Research	-	15,498	-	309	623	335	1,000
34. Sundry Works at Fishing Centres	12,000	25,320	5,680	9,741	6,608	3,715	3,000
35. Loans to Fishermen for Boats	30,875	51,000	5,977	11,665	10, 789	26,002	12,000
36. Dredging of Inner Part of Marsaxlokk	-	47,475	-	14	33,160	-	-
37. Building of Dwelling Units	-	64,988	-	8,753	16,102	9,440	10,000
38. Expropriation of Lands and Old Fishponds at Marsaxlokk (a)	2	15,020	15,000	20	-	-	-
TOTAL FISHERIES	64,830	384,793	45,245	62,661	89,191	83,339	69,000
TOTAL AGRICULTURE	595,132	1,260,199	98,077	176,457	237,659	234,846	290,000
COMPLETED SCHEMES						-	-
Equipping for Crop Protection Spraying Service.	8,031	1,769	1,769	-	-		
TOTAL EXPENDITURE	£667,993	£1,645,761	£145,091	£239,118	£326,850	£318,185	£359,000

(a) completed in 1965/66

TABLE 21 (cont.)

REVENUE 1968/69

	ACTUAL 1963/64	ACTUAL 1964/65	ACTUAL 1965/66	ACTUAL 1966/67	ACTUAL 1968/68	ESTIMATE 1968/69
II Fees of Office and Reimbursements						
A. FEES OF OFFICE						
AGRICULTURE AND FISHERIES						
Fisheries						
14. Fees for Fish-hawker Arm Badges	16	15	12	7	9	-
15. Permits and Licences	33	38	40	60	42	-
Veterinary Services						
13. Abattoir Fees	16,693	15,105	15,078	16,124	16,889	17,000
Agriculture						
14. Licences, certificates, etc.	360	341	392	477	558	500
	17,107	15,499	15,522	16,668	17,498	17,500
B. REIMBURSEMENT (Fisheries)						
16. Sale of Fishing Equipment	9,959	6,998	7,569	8,855	8,966	9,000
17. Sale of Fish from experimental fishing Vessel	1,142	-	-	-	-	-
18. Commission onsales of imported fish	250	-	-	140	140	300
Agriculture						
18. Sale of vegetables from Government Farm.	2,597	2,034	2,728	3,913	4,193	4,000
19. Sale of livestock fromGovernment Farm.	4,293	3,996	3,200	3,617	3,645	3,500
10. Sale of Dairy Produce	2,995	2,858	2,873	3,616	3,328	3,500
11. Sale of vine rootlings, etc. from vine Nurseries	10	2,858	2,873	-	-	10
12 Sale of trees, plants from Public plant.	1,561	1,280	1,934	1,940	2,439	1,530
13, Sale ofFruit etc. from San Anton Gardens.	701	643	654	876	740	700
14. Sale of Fruit etc. from Buskett Gardens	1,776	2,171	1,758	2,516	1,435	2,000
15. Sale of Fruit etc. from Dar il-Ljuni Gardens	115	111	103	141	152	100
16. Sale of hatching eggs and Poultry from Government Farm.	5,515	4,384	5,450	3,667	5,297	5,000
17. Sale of Honey	12	30	24	38	12	20
18. Inspection of Agricultural Produce	450	379	256	417	1,280	400
19. Sale of Wine	258	144	-	-	-	10
101. Service of skilled Personnel of the Distribution to Farmers	4,146	2,481	2,507	2,127	1,661	2,500
VETERINARY SERVICES						
102: Maintenance of dogs kept under observation.	130	131	254	175	315	200
MISCELLANEOUS REIMBURSEMENT						
113. Miscellaneous	408	698	1,239	1,038	1,256	570
Sale of Poultry Vaccine			161	221	243	300
	36,146	28,788	30,737	33,298	35,102	33,640
XII INTEREST						
A. Interest on Loans	2,824	2,770	2,499	3,416	5,113	4,000
XIII PENSION CONTRIBUTIONS						
A. Contribution under the Widows and Orphans	1,115	1,218	1,226	1,171	1,155	1,200
VI MISCELLANEOUS RECEIPTS						
2. Miscellaneous	172	653	23	578	487	10
5. Repayment of Loans	19,155	27,373	35,247	34,133	64,698	42,000
	19,327	28,026	35,270	34,711	65,185	42,010
SUMMARY						
II A Fees of Office	17,107	15,499	15,522	16,668	17,498	17,500
B: Reimbursement	36,166	28,788	30,737	33,298	35,102	33,640
II Interest	2,824	2,770	2,499	3,416	5,113	4,000
III Widows and Orphans (Pension Act 1927)	1,115	1,218	1,226	1,171	1,155	1,200
VI Miscellaneous Receipts	19,327	28,026	35,270	34,711	65,185	42,100
	76,539	76,301	85,254	89,264	124,053	98,440

TABLE 22

VALUE OF AGRICULTURAL EXPORTS

	1960	1961	1962	TOTAL 1960/62	1963	1964	1965	TOTAL 1963/65	1966	1967	1968	TOTAL 1966/68
	£	£	£	£	£	£	£	£	£	£	£	£
A. ANIMAL												
ANIMALS ...	1,316	2,161	4,711	8,188	26,195	7,914	13,118	47,227	31,413	18,153	15,296	104,862
HIDES & SKINS ...	49,017	59,807	40,693	149,517	52,697	34,828	39,057	126,582	34,542	37,962	47,990	120,494
BONES AND HOOFS ...	600	675	300	1,575	700	630	780	2,110	-	-	400	400
HORSE HAIR ...	500	420	507	1,427	720	850	300	1,870	310	690	-	1,000
TALLOW ...	17,862	6,750	600	25,212	11,960	6,553	3,700	22,213	2,850	300	7,100	10,250
RAW WOOL ...	3,300	2,150	1,172	6,622	4,824	2,390	1,490	8,704	2,883	217	877	3,977
	72,595	71,963	47,983	192,541	97,096	53,165	58,445	208,706	71,998	57,322	111,663	240,983
B. POULTRY												
EGGS ...	-	-	-	-	2,080	84	7,741	9,905	39,313	11,929	490	51,732
C. HORTICULTURE												
POTATOES ...	370,887	379,872	371,684	1,122,443	486,724	246,530	368,229	1,101,483	466,986	375,503	492,132	1,334,621
WINE ...	49,491	55,418	148,000	252,909	241,256	299,639	299,974	840,869	334,891	311,274	369,139	1,015,304
CUT FLOWERS, PLANTCUTTINGS, SEEDS AND BULBS	62,930	86,859	134,545	284,334	207,323	194,505	229,000	630,828	266,636	302,816	336,825	906,277
ONIONS ...	18,751	14,411	71,204	104,366	51,938	55,915	28,227	136,080	154,013	77,297	168,632	399,942
TOMATO PUREE ...	140	-	-	140	9,623	10,261	21,524	41,408	53	2	5	60
TOMATOES ...	21	211	893	1,125	4,647	4,555	5,063	14,265	26,583	20,535	10,366	57,484
	502,220	536,771	726,326	1,765,317	1,001,511	811,405	925,017	2,764,933	1,249,162	1,084,427	1,377,099	3,713,688
GRAND TOTAL	£574,815	£608,734	£774,309	£1,957,858	£1,100,687	£864,654	£1,018,203	£2,983,544	£1,360,473	£1,156,678	£1,489,252	£4,006,403
TOTAL HORTICULTURE				1,765,317				2,764,933				3,713,688
TOTAL ANIMAL				192,541				208,706				240,983
TOTAL POULTRY				-				9,905				51,732
				£1,957,858				£2,983,544				£4,006,403
INCREASE AND DECREASE								+ £1,025,686				+ £1,022,859